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Young people's transitions to economic independence and the role of government assistance: Evidence from the US and the UK

Sarah E. Weakley
Social Policy PhD
The University of Edinburgh
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Declaration

I declare that this thesis has been composed solely by myself and that it has not been submitted, in whole or in part, in any previous application for a degree. Except where stated otherwise by reference or acknowledgment, the work presented is entirely my own.

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Sarah Weakley Date

Abstract

For young people who are poor, navigating a path from adolescence to adulthood is a risky, isolating, and challenging process. Successful navigation of multiple and concurrent transitions in the education, employment and family formation domains is dependent upon both the structural inequalities that shape a young person's opportunities and the ability of a young person to manage these transitions on their own. One of the largest structural factors organising a youth transition is the welfare state. While there are many investigations of state interventions that focus on the education and training sectors, low income young people in liberal welfare states also access the means-tested benefit system: however, considerably less is known about how this type of support impacts young people's transition outcomes.

This research aims to quantify the impact of government transfers on the achievement of economic independence for cohorts of young people in the United States and the United Kingdom. To achieve this aim, this thesis will use four waves of the 1970 British Cohort Study and sixteen waves of the United States National Longitudinal Survey of Youth 1997 covering the youth period to mid-life. This research employs longitudinal models for three measures that comprise economic independence—individual wages, work intensity and household economic status – to produce case-specific results. These case results will then be discussed comparatively using the welfare mix framework, which illuminates the extent to which young people rely on the labour market, family, and the state to achieve economic independence.

Both cases found that the benefit system is a notable and mediating factor in the transition experiences of young people who are structurally disadvantaged. The positive results for young parents and very poor sample members in particular showed that intervention through means-tested benefits is associated with some characteristics of a successful safety net, which may be able to contribute to positive labour market outcomes for these target groups. These initial results call for more research to understand how these groups can use government assistance to improve their economic and labour market outcomes. For policymakers, these results suggest that there is scope for liberal welfare states to positively influence a wider group of 'deserving' young people with challenging youth transitions. The family welfare source also emerged from this work as a key avenue whereby inequality is manifested in youth transitions in the two countries, and should be a

prominent consideration in future research; particularly for work that bridges the fields of welfare state and youth transitions as was done in this investigation.

Lay Summary

This thesis investigates the impact of receiving means-tested welfare benefits on a young person's achievement of future economic independence in two countries, the United States and the United Kingdom. This work therefore engages with current debates on the role of government assistance in a low-income young person's transition to adulthood. The research uses large-scale cohort datasets that follow the same respondents from the youth period (age 16-24) to mid-life to investigate wages, labour market attachment, and household income. Because the two countries have quite similar welfare systems, a comparison can explore whether the same types of policies, operating on the same types of principles, do indeed affect long-term outcomes similarly for young people.

Both cases found that the benefit system is a notable and mediating factor in the transition experiences of young people who are structurally disadvantaged. The positive results for young parents and very poor sample members in particular showed that means-tested benefits are associated with some characteristics of a successful safety net and more positive labour market outcomes for these two groups. These results illustrate the potential for benefits to be a positive factor in a youth transition, and also suggest that it may be valuable to reconsider who among young people are 'deserving' of government assistance. This is particularly pertinent as more and more young people struggle to become economically independent before the official 'end' of the youth period. A young person's family resources also emerged as an important way that young people are helped or hindered in their youth transition period, and points to new research areas for youth transitions and welfare state researchers interested in how young people journey to economic independence

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It's foolish to try and adequately thank my family back home in a couple of lines here – my tendency towards verbosity does not allow it – so this is just to say that you are the best support system a person could have. You have never questioned my ability to do this or anything else and I am tremendously lucky to have you in my corner – I love you.

And to Matthew, my best buddy – we did it!

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Abbreviations

AA	Associate of Arts Degree
AFDC	Aid to Families with Dependent Children
AFI	Adjusted for inflation
AMI	Area Median Income
BCS	1970 British Cohort Study
BLS	Bureau of Labor Statistics
CRE	Correlated Random Effects model
EITC	Earned Income Tax Credit
FE	Fixed Effects model
FHA	Federal Housing Administration
FPL	Federal Poverty Line
HOLC	Home Owners Loan Corporation
IS	Income Support
JSA	Jobseeker's Allowance
LME	Liberal Market Economy
NLSY	National Longitudinal Survey of Youth 1997
PRWORA	Personal Responsibility and Work Opportunity Reconciliation Act
RE	Random Effects model

SNAP	Supplemental Nutrition Assistance Program
SSI	Supplemental Security Income
TANF	Temporary Assistance for Needy Families
WIC	(SNAP) Women, Infants and Children program
WTC	Working Tax Credit
YTS	Youth Training Scheme

Introduction

For young people who are poor, navigating a route to adulthood is particularly tumultuous: widening and persistent inequality in education and employment exacerbates the challenges of attaching to the labour market, establishing a home away from parents, and accessing and completing the education necessary for economic success. Youth unemployment, underemployment, and disconnection spiked as result of the most recent global recession and brought the challenges of youth transitions to the political forefront. However, questions on the role of government in the life course transitions of young people are perennial, and engage with issues of dependency and deservingness that characterise nearly all debates about the welfare state.

Questions on the role of the state and the extent of its involvement in individual lives are particularly prescient in liberal welfare states which seek to assist only the 'deserving poor' and then only as a safety net of last resort. In the two liberal welfare states of this investigation, the United Kingdom and the United States, shifts in poverty reduction policies in the last thirty years resulted in systems of means-tested benefits that serve fewer citizens in both countries and changed who among the poor is deemed deserving of assistance (Atkinson & Micklewright 1989; King 1999; Pierson 1994; Wiggan 2012). The population of poor young people complicates questions of deservingness further, as young people are in a period of 'semi-dependence' (Coles 1995) with expectations that they are able to provide for their own welfare either through the labour market alone or with additional support from their family of origin rather than the welfare state (Antonucci et al 2014b).

Where government intervention for young people does occur it is generally focused within the education and training systems (Wallace & Bendit 2009); given the abundance of evidence affirming the importance of higher education to more positive economic outcomes (Crawford et al 2016; Croxford & Raffe 2014; Furlong 2006; Shapiro et al 2017; Walker & Zhu 2011; Wickrama et al 2012). Higher educational attainment alone does not, though, entirely close the gaps between the advantaged and disadvantaged nor is higher education accessible or appropriate for all young people. Different interventions are therefore necessary to adequately support young people where the education sector cannot (Bozick & DeLuca 2011; Goldin 2014; Shavit & Muller 2000). However, investigating the role of government intervention for young people *beyond* the education sector can be

challenging to undertake because 'youth policy' is necessarily cross-cutting, engaging with the multiple life course transitions occurring in this period (Antonucci et al 2014b; Wallace & Bendit 2009; Walther 2006). Young people are transitioning out of secondary school and into higher education or the labour market, out of their parental home, and perhaps also forming their own families – often concurrently. Although not frequently discussed, low-income young people interact with the means-tested benefit system during and through these multiple transitions, even in the residual liberal welfare states of the US and the UK.

However, because many low income young people are not considered a key deserving population for means-tested assistance, policymakers know considerably less about how young people as a demographic group interact with the benefit system. Rather, young people's interactions are usually considered within the context of their place in the further and higher education system or in their roles as parents (if applicable). However, recent policy focus on this demographic group and the 'life cycle effects' of the welfare state (Hills 2015) has brought new attention to how interaction with government assistance affects youth transitions and how those experiences can influence long-term outcomes. It is valuable therefore to analyse previous cohort evidence to investigate whether receiving means-tested assistance impacts long-term economic outcomes and how the system of cash assistance impacts some groups more notably. Through this work, research can ideally uncover how the state plays an explicit role in the youth transition experiences of low income young people. How does interacting with the benefit system during this period of the life course impact independence outcomes? And how does the context in which these benefits are delivered (both macroeconomically and programmatically) influence variation in long-term impacts, even among countries that function under the same welfare regime?

Research Aims and Question

To address these issues, and to provide evidence to policymakers and engage with current policy debates, this research aims to quantify the impact of government assistance on the achievement of economic independence for two cohorts of young people from the US and the UK; the US National Longitudinal Survey of Youth 1997 (NLSY) and the 1970 British Cohort Study (BCS). Importantly, this investigation includes explicit considerations of key domains of a youth transition, aiming with the research design to bridge the fields of welfare studies and youth transitions studies. The one research question guiding the investigation in both cases is as follows:

What is the impact of receiving government transfers in youth (age 16-24) on a low-income young person's ability to become economically independent – live above a poverty income and attach steadily to the labour market – by their mid-30s/early 40s in the United States and the United Kingdom?

While there is some evidence in the econometric literature about the impact of cash assistance on benefit recipients' economic outcomes in the short term (e.g. 'leavers studies' reviewed in Chapter 2.4), the evidence on the impact of government transfers on the trajectory of a citizen's economic well-being in the long term is not as developed. Evidence with this time horizon may be able to confirm or counter narratives of the 'cycle of dependency' that some claim benefit receipt causes and can illuminate whether benefit receipt has scarring effects for those who receive it; or conversely, whether there is evidence that government assistance indeed serves as a valuable resource in a youth transition for particular groups. This research also uniquely analyses the role of government assistance (the purview of welfare state researchers) through a youth studies lens, bringing together these two fields to consider broader questions of how a welfare state promotes independence and/or dependence, the key concept grounding this work.

The life cycle effects of government assistance here can differ based on the demographic characteristics of the recipient, but can also differ based on variation in means-tested benefit programmes themselves; and while the US and the UK function under the same broad welfare state principles (Pierson 1994), programmes in practice indeed differ. In many ways the system of support in the UK is considered to be more 'generous' primarily because the US has a notably meagre safety net (Holmwood 2000; Walker & Wiseman 2003), and a comparison can provide evidence on ways that variations of a liberal welfare state might impact low income citizens differently. The comparison is best considered a contrast of contexts in the spirit of Skocpol and Somers (1980) on the programmatic level and between two cohorts, to determine if the same types of policies organised by the same principles have similar or divergent outcomes based on the country context. If policies do indeed work similarly, as previous policy learning between the two countries would suggest, this may provide further evidence that both governments should reconsider their involvement in the transition experiences of disadvantaged young people along the same lines.

Thesis Outline

Chapter 1 outlines the principles of liberal welfare states that function within the United States and the United Kingdom, how policymakers frame the government's interaction with disadvantaged young people using these principles, and how these principles are implemented in practice. This sets the policy context for this investigation. Chapter 1 also engages with tensions that arise between the conceptual and practical characteristics of liberal welfare states when the population of young people are considered in reference to their youth transition experiences. Chapter 2 grounds this investigation in the field of youth transitions research, detailing the characteristics of a youth 'transition project' (Settersten et al 2005) in each case and the way that inequalities impact it. Chapter 2 ends with a discussion of previous empirical evidence on government assistance that addresses the issues of this investigation. Chapter 3 details the research design and methodology, including a discussion of the comparative element in this thesis as a 'contrast of contexts' (Skocpol & Somers 1980) and the quantitative models that will be produced to answer the research question. Chapters 4 and 5 are the empirical results chapters presented as two cases: Chapter 4 provides the empirical results from the United Kingdom case and Chapter 5 provides the results from the United States case. Chapter 6 first presents each of the case results as a case narrative on a young person's transition to economic independence in each country. This is followed by the comparison of these results using the 'welfare mix' (Powell & Barrientos 2004) analytical framework to discuss the impact of state intervention, the family, and the labour market welfare sources in the achievement of economic independence in both cases. Chapter 6 concludes with the policy implications of this work, identifying four important areas to consider in future investigations in this field and details how this investigation reframes the role of the state in the transition project. Chapter 7 concludes, summarising the approach and its limitations, the key contributions of this investigation, and specific policy recommendations for young people in the US and the UK welfare states.

Chapter 1: The Principles and Practices of a Liberal Welfare State

As the purpose of this research seeks to measure the impact of government interventions in the youth period of the life course, the literature needed to orient this work must come from two strands. First, the work must be grounded in an understanding of the principles of the welfare state most applicable to this investigation that function in both cases, how those principles are implemented in practice, and the tensions that arise when the conceptual meets the practical in each country context. Second, a literature review must also detail what is known about the youth transition period for each of these cohorts; including key conceptual issues in youth transitions research, the composition and characteristics of a 'transition project' in each case (Settersten et al 2005), and how the welfare state is involved in this transition project (Chapter 2). The aim of bringing these two literatures together is to detail what is known and unknown about how the welfare state impacts young people, and to orient this work in two bodies of evidence.

1.1 Welfare State Principles

Frameworks for understanding the US and UK Welfare State

Most research on welfare states generally begins with a discussion of Esping-Andersen's *The Three Worlds of Welfare Capitalism* (1990), as his work provides a foundation to explore citizens' relationship to the labour market and the welfare state. The United States and the United Kingdom are grouped together in the liberal welfare regime and the dimensions that characterise a liberal welfare state apply to both. Although Esping-Andersen's typologies provide a number of concepts that apply to this study, the two concepts of de-commodification and de-familialization are most relevant as they both directly impact the opportunities and choices available to young people during the transition phase. The dimension of 'de-commodification' is defined as the extent to which 'citizens can freely, and without potential loss of job, income, or general welfare, opt out of work when they themselves consider it necessary' (Esping-Andersen 1990, p. 23). Liberal regimes are characterised by low de-commodification, where there is very little assistance from the government for those who opt out of the labour market. Rather, the market is considered to be the primary source of welfare and thereby citizens must commodify their

labour in the market as individual actors (Esping-Andersen 1990). The government's role in welfare provision therefore is to meet the needs only of those who are unable to provide for themselves in the market, a determination often made by the state and done primarily through means-testing government benefits; a key characteristic of liberal welfare states.

Esping-Andersen's original work was criticised in its assumption of a male-breadwinner model and its omission of the way that the welfare state is 'gendered', or how the organisation of the welfare state moderates the relationship between women's labour market participation, unpaid caring work and welfare state provision (Orloff 1996, 1993; Sainsbury 1996). His subsequent work on welfare regimes therefore added a dimension of de-familialization, which is the 'capacity of women to form and maintain their own households' (Smeeding and Phillips 2002, p.105) in the absence of a male breadwinner (Esping-Andersen 1999). Identifying the level of de-familialization in a liberal welfare state is not particularly straightforward, as social policies that aim to improve female labour market participation (such as government subsidised childcare) may not exist in in the United States yet there is still very high female labour market participation (Smeeding & Philips 2002). Other measures, such as cash assistance for lone parents and parental leave generosity, may also improve de-familialization for females in each case but these differ slightly more in practice between the US and the UK, with the UK system generally considered to be more generous for women to stay in the home if so desired and for childcare to be subsidised (Orloff 2004). A liberal welfare regime could therefore be considered relatively high in de-familialization in some areas, but low in others.

The concept of de-familialization has also been applied to the study of welfare regimes related to young people, notably in Chevalier's framework of 'varieties of youth welfare citizenship' (2016). In this framework familialization is the degree to which parents in a welfare state have legal requirements to financially support their children, and by extension when young people in a welfare state are considered their own benefit unit. For liberal welfare states, familialization according to Chevalier is quite low, as parents are no longer legally required to financially support their children after 18. However, this distinction is complicated when the welfare state for young people is detailed in practice and is a key tension of a liberal welfare state, which will be returned to in Chapter 1.3. Chapter 2 posits how this work might combine the two understandings of familialization from Esping-Andersen and Chevalier in both theory and practice to consider the extent to which young

people can become self-sufficient apart from their family of origin in the youth period; a new way to conceptualise defamilialization.

The second framework used to foreground this research and case selection is varieties of capitalism. Detailed by Hall and Soskice (2001) and Estevez-Abe and colleagues (2001), this framework works in concert with the worlds of welfare framework by detailing how each country's 'corporate strategy' works within the country's political economy outlined by Esping-Andersen (Hall & Soskice 2001, p. 14). In this framework the liberal market economies (LMEs) of the US and UK are defined by a highly fluid labour market that generally relies on markets and private actors to 'coordinate endeavours in the financial and industrial relations systems' rather than for governments to do so (Hall & Soskice 2001, p. 30). The welfare state functions instead as 'a complement in national production systems' (Estevez-Abe et al 2001, p. 146), where a liberal market economy is complemented by low levels of state benefits characterised by means-testing. This implicitly serves to also affirm the primacy of private firms rather than government interventions in a citizen's labour market trajectory (Huber & Stephens 2004; Mares 2003; Swenson 2002). Participation in the labour market is therefore of primary importance, and LMEs require a large number of workers with general skills who are able to move fluidly between firms as required by market conditions. This preference of firms produces complementarities in the education and training system to favour general skills and switchable assets, with little investment in state-sponsored or highly specified training programs so that workers can be more adaptable to labour market needs as defined by firms (Estevez-Abe et al 2001).

The complementarities of the education system have a direct impact on young people, where a focus on providing young people with general rather than specific skills ultimately means that success in the educational system is tipped in favour of those with high academic achievement, who are in turn rewarded most handsomely in the labour market. Iversen and Stephens (2008) also note that a focus on general skills in LMEs comes with a deficit in funding for vocational education programmes. Those who are academically weak and unable to enter into the higher education system are left with fewer options to gain skills in their early adulthood and may therefore be stuck in a 'poverty trap' of low-skilled and low-wage work (Estevez-Abe et al 2001, p.155). In general, the transition from school to work can best be considered 'weakly institutionalised' in both countries (Iversen &

Stephens 2008, p.608). While there are slightly different educational and labour market systems[1] in the United States and the United Kingdom, these differences are variations on the theme of a liberal market economy rather than two different types of economic and educational functioning altogether. In particular this 'welfare-skills formation nexus' (Estevez-Abe et al 2001, p. 155) detailed in the varieties of capitalism framework can serve as a focal point in working between the two literatures.

Together both Esping-Andersen's framework and the varieties of capitalism literature detail key characteristics of liberal welfare regimes and liberal market economies that were established and functioned in each country during the 'Golden Age of Welfare' from 1945 to 1975 (Esping-Andersen 1990, 1996), which were notably translated into practice in the turn towards liberalism in the 1980s. Described as an effort to 'mobilize the state on behalf of the market and reconfigure the state as a quasi-market operation' (Soss et al 2004, p.20), the changes brought about by liberalism's resurgence in the 1980s took the state's interaction with a liberal market economy even further; such that some functions of the welfare state were put under private control and harsher means-tests were put in place, increasing the reliance on the market as the primary welfare[2] source for citizens. Together, the principles that underpin the welfare states described by Esping-Andersen (1990) and the economy described by Hall and Soskice (2001) and Estevez-Abe and colleagues (2001) in the varieties of capitalism framework combine in this new political world of liberalism to form the liberal welfare state of the youth cohorts investigated here.

From frameworks to key principles of liberal welfare states

Policymakers (both past and present) in both countries therefore translate the relatively broad features of a liberal welfare state outlined in the frameworks above – such as commodification, fluidity in labour markets and individualism – into key tenets that guide their work. Often brought to bear in practice from policy learning between the countries (Alesina et al 2001; Holmwood 2000; Pierson 1994; Walker & Wiseman 2003), these principles not only end up shaping the expectations of citizens who interact with the welfare state most frequently, but also characterise an ideal liberal welfare state. The

[1] Differences in the educational sector between the US and the UK are explored in more detail in Chapter 2.2.

[2] In the context of this investigation, 'welfare' does not only refer to systems of government benefits or cash assistance. Rather, this work engages with 'welfare' broadly as the economic and social well-being of a citizen, which can be, but is not exclusively, discussed in reference to government policy.

principles of independence, paternalism, contractualism, and residualism are the most notable to detail for consideration in this study.

The principle of independence in liberal welfare states can perhaps most be tied to the low de-commodification properties that characterise them (Esping-Andersen 1990, 1999). Labour market participation through waged labour is encouraged as a way to achieve personal independence and to assert one's agency in the life course, with a belief that work is a virtue in itself and is a normative part of one's identity (Ellwood 1998 in Prideaux 2001; King 1999). High levels of individual participation in the labour market, encouraged by both normative and financial imperatives of this welfare state, would theoretically ensure that the vast majority of people do not rely on government assistance to survive. Most citizens are subsequently 'independent' from the welfare state while enabling liberal welfare states to function primarily as 'safety-net institutions' (Esping-Andersen 1990).

The concept of independence as independence *from* the welfare state is paired with the negative concept of welfare 'dependency' (Fraser & Gordon 1994; Pivan & Cloward 1972; Wiggan 2012). Fraser and Gordon (1994) detail the emergence of these paired concepts in political discourse: 'As wage labor became increasingly normative – and increasingly definitive of independence – it was precisely those excluded from wage labor who appeared to personify dependency' (p. 316). A large number of citizens who are dependent on government assistance in particular is a problem in liberal welfare states not only because of concerns over growing government expenditures, but because this dependency runs counter to the individual market principles that a liberal welfare state espouses. Writing in 1972, Piven and Cloward detailed why those seen as 'dependent' in the United States are in conflict with the founding concepts of a liberal market economy and therefore receive the ire of the public and the government:

> 'What has to be understood, however, is that the loathing of 'reliefers' is not an accidental feature of American culture. It has deep roots in the two main tenets of market ideology: the economic system is open, and economic success is a matter of individual merit (or luck); those who fail – the very poor – are therefore morally or personally defective' (p. 148).

According to this narrative the problem of the poor and welfare dependent is not framed as an economic problem, but rather an individual moral one. To solve this problem liberal welfare states began implementing more notably paternalistic principles in the 1980s, with the task of government now to 'remoralise the poor' (Soss et al 2004). The modern emergence of paternalism began with the writings of US authors Charles Murray in *Losing*

Ground (1984) and Lawrence Mead in *Beyond Entitlement* (1986), and both the US and UK governments took a decided turn towards paternalism from the late 1980s onward. According to Mead the government should serve as 'authority figures as well as helpmates', and implement both carrot and stick measures to incentivise welfare dependents into work (Mead 1986 in Soss et al 2004, p.58). Introduced first in the United States, these types of policies included administrative changes to the benefit structure (via lowering the benefit reduction rate), introducing workfare programmes, and enforcing sanctions if welfare recipients did not meet labour market activity requirements (Moffitt 2003; Prideaux 2001; Soss et al 2004). The UK followed suit with the introduction of many of these same types of policies in the mid-1990s (Daguerre 2004; Davies 2012). A fundamental belief driving welfare policy in both countries is that work in itself is a value to be upheld, for with it citizens are able to find self-worth through economic participation and be included in society (Bowring 2000, p.310). For those who are 'choosing' not to engage in this work, the government must work to incentivise and reinforce these socially positive behaviours whenever possible and actively discourage and sanction negative behaviours if necessary (Churchill 2011 in Davies 2012). Importantly, the moral imperative of work and avoidance of welfare dependency are ideals agreed upon by both centre-right and centre-left parties in both countries; centre right discussions of limiting 'dependency' and centre left discussions of solving 'worklessness' serve as two sides of the same coin.

The policy most researched as an outgrowth of paternalism in both countries is workfare (also at times called 'activation' programmes), whereby citizens who receive government assistance are obligated to undertake a set of work-related activities in order to continue receiving benefits (Daguerre 2004; Finn 2003; Handler 2004; Moffitt 2003; Walker & Wiseman 2003). This welfare state development is described by researchers as 'contractualist', with an (at times) explicit agreement or contract being made between government agencies and benefit recipients (Deacon 2004; Sage 2012; Walker & Wiseman 2003). As Deacon (2004) notes, welfare states that function under contractualism and paternalism both claim workfare is justifiable for benefit recipients but for different reasons. While paternalism views workfare as a way to incentivise the values of paid work, contractualists view workfare as 'fair because it limits free-riding' (Deacon 2004, p. 911), while also being part of the 'reciprocal responsibilities' of citizenship (Sage 2012, p. 361). Together, these two concepts are applicable in tandem in workfare programs to 'remove aspects of an individual's behaviour judged morally unacceptable' and to reaffirm the duty

that citizens have to their state (King 1999, p. 21). In practice these principles result in a much smaller cash benefit system in both countries and deters the increasingly smaller number of citizens eligible for benefits from receiving them (Daguerre 2004; King 1999; Prideaux 2001).

The political debate surrounding welfare state intervention in the lives of young people also hinges on these two principles, particularly given a young person's status as neither fully dependent or fully independent (a tension discussed in Chapter 1.4). Direct government intervention for young people is a greater feature of UK policy debates because this group is generally able to receive cash assistance; unlike eligibility for most assistance in the US, which is limited only to those with children if younger than 25. Low income young people are viewed as particularly susceptible to making poor choices if given cash assistance, and contractualist and paternalist interventions introduced by both parties in the UK ensures that 'with the new opportunities for young people come new responsibilities', particularly if activation programme funding is accessed (Gordon Brown in HC Debate 02 July 1997). Discussion in the last three decades in UK welfare policy has focused on how to ensure young people avoid receiving cash assistance and are rather incentivised to work. Activation and job training programmes like the Youth Training Scheme (YTS) and its descendants are framed primarily in paternalistic terms, supported by ministers in both parties as a way to keep young people, in the words of Harold Walker Labour MP, from walking the 'gangplank into the dole queue' (HC Debate 02 February 1983). Rather, the government should work to give young people 'positive choices', put bluntly by Prime Minister Cameron: 'Go to school. Go to college. Do an apprenticeship. Get a job' (2013). In both of the countries investigated in this research, whether through encouraging young people into a prescribed labour market programme or making the majority of young people ineligible for assistance altogether, the message conveyed is that cash assistance the worst way to support this group.

For both young people and those over 25, the principles of paternalism and contractualism are put into practice only for a targeted group of citizens – the dependent poor. It is this group who are directly impacted by government assistance programs, and the vast majority of citizens do not come into direct contact with means-tested government assistance by design. The principle of residualism targets government assistance almost wholly towards the poor, creating a dualistic structure whereby the majority of citizens receive their

welfare from the market and a targeted group interact with the government directly (Esping-Andersen 1990). The use of means tests in both the US and the UK welfare state is the vehicle by which residualism is delivered and is situated as a focal point of government assistance (Soss et al 2004), which signals to citizens that government assistance is only meant for those in greatest need.

However, the determination of those who can receive assistance in a residualist welfare state subsequently engages with the debate over who among those in need is deserving or undeserving of that assistance. Indeed, in Moffitt's discussion of the development of means-tested benefits in the United States (2003), citizens are 'judged to be needy not just on the basis of income but on the basis of some other characteristic that leads them to be deserving in the eyes of the public' (p. 6), an often shifting subjective determination. Although present at the founding of the American welfare state most notably, the United Kingdom has also developed into a more decidedly residualist welfare state from the 1970s onward (Atkinson & Micklewright 1989; McGinnity 2004; Soss et al 2004; Walker & Wiseman 2003). At the founding of the United States' modern welfare state in 1935 those deserving included the aged, blind, children, widows, and those temporarily unemployed, but group membership has not stayed static (Handler & Hasenfeld 1991; King 1995; Pierson 1994). In both countries, single mothers eventually were added to the deserving category (although this varies in practice, as the US also applies means tests for benefits to single mothers), while those unemployed without any insurance contributions have been falling out of the deserving category in the eyes of the public and the state (Deeming 2015; Sage 2012). This unemployed group in particular is viewed as being able to work or to be incentivised back into work and choosing not to do so (Deeming 2015; Fraser & Gordon 1994; Pierson 1994; Wiggan 2012).

The designation of young people as a deserving subgroup is a slightly more complicated issue than benefit eligibility for those considered adults (generally over 25 years old), and is an area of contrast between the UK and US cases. Implied by the UK policy discussions of which policies to implement is the recognition that indeed low-income young people who are deserving of some modicum of support; both young people without children as well as young parents. This designation in the UK is again an area currently up for debate, particularly for young people without children, but government interventions in the training sector such as YTS and in the New Deal for Young People suggest that there is some

political will to assist this group. Deserving classification in the UK, however, is also starting to change particularly in the age of austerity: assistance in a jobs programme in the UK is the remit of the education system (e.g. Modern Apprenticeships) and rather job search and readiness assistance is provided as part of a contractual element for cash benefits. This is contrasted with the US case, where government assistance for the youth subpopulation is relatively absent. Rather, young people are considered eligible for benefits by virtue of parenting status or in rare cases leaving care or the juvenile justice system. While US policymakers agree that the best way to assist young people is with education or a job, there is little discussion of what explicitly the government should do about this issue. The lack of a deserving designation for young people in the US results in far fewer benefit programmes available and notably no large scale government job and training programme for low-income young people (detailed further in Chapter 1.2).

Although the narrowing of those in the deserving category of government assistance is a characteristic of liberal welfare states generally, it is also important to recognise how the composition of those in the deserving category has changed given the rise of in-work poverty in both countries (Fraser et al 2011; Shipler 2008). The development of policy tools aimed to assist those in work but who are still poor, such as the Earned Income Tax Credit (EITC) in the United States and the Working Tax Credit (WTC) in the United Kingdom, signals that governments do indeed assist poor citizens but only if they engage in the labour market (Clegg 2015; Howard 1997; Myles & Pierson 1997). The 'hidden welfare state' characterised by these programmes (Howard 1997), however, only necessarily reaches those with earnings; those with very little or no wage income are therefore not served by these programmes (Fox et al 2015; Meyer & Wu 2018). It would stand to reason then that the poverty reduction effects of these programmes will not reach those in deep poverty (50% of the US Federal Poverty Line, [FPL]). This is an important consideration when analysing how a welfare state functions as both a safety net and a poverty reduction tool, an issue returned to in Chapter 2.4: while tax credit programmes indeed have been proven to reduce poverty, their function suggests that the label of 'safety net' benefit may not be entirely appropriate. The rise in prominence of these policy tools also engages with broader theoretical questions about how these programmes align with key welfare state features. Government assistance predicated on labour market participation through the use of tax credits is characteristic of the contractual features of liberal welfare states, albeit in a

softer, more implicit way, but challenge the traditional characteristics of a liberal welfare state as a residualist entity.

The four organising principles of the liberal welfare states detailed above – independence, paternalism, contractualism and residualism – in the US and the UK function consistently and concurrently, so cannot entirely be viewed in isolation. However, investigating how each are manifested in specific policies in both countries will hopefully guide the discussion of how each welfare state lives up to the 'ideal' in practice, and how in particular the country context and welfare state histories impact the expression of these principles in the survey period of each cohort investigated.

1.2 Principles in Practice

There is generally consistent agreement among scholars that the principles detailed above had their most notable renaissance in the Thatcher and Reagan years, as both governments pivoted away (or further away) from Keynesian economic principles and instead took on a neoliberal policy agenda (Holmwood 2000; Lowe 2005; Pierson 1994; Soss et al 2004; Walker & Wiseman 2003). The policies which implemented these principles were done so at different times in each country, but both the UK and the US samples of this investigation were in the youth stage of the life course (roughly age 16-24) during particularly notable changes in each welfare system. As Billari notes, the social and economic policies of a nation indeed impact the transition to adulthood (2004) and it is therefore extremely valuable to detail the specific policy context of each survey period of this research, particularly each cohort's youth period. The context-setting work done in this section therefore details the 'period effects' that 'modify the opportunities that young adults face in their early adult years' (Billari 2004, p.22). Detailing these policies also helps to define what is meant by 'benefit receipt' in the upcoming results, and illuminates the unique contextual issues that impact the expression of the welfare state for each case.

The UK welfare state of the 1970 British Cohort Study

The UK cohort used in this investigation, the 1970 British Cohort Study (BCS), was in the youth period in the mid-1980s to mid-1990s (turning 25 in 1995), when changes in the provision of out-of-work benefits and in the housing market have been identified as particularly notable for this cohort's youth transition (Bynner et al 1997; Furlong & Cartmel 1997). The most prominent policy changes of the Conservative governments of this period

were included in the Social Security Act of 1986[3], which enacted major changes in the provision of government assistance to the poor who were out of work and did not have a substantial contribution record to receive National Insurance benefits (Atkinson & Micklewright 1989; Dilnot & Walker 1989; Lowe 2005). Some of these changes in particular reshaped the way that young people were perceived in the welfare state, both as independent benefit units and as part of their family of origin's benefit unit.

This act changed the Supplementary Benefit programme to the Income Support (IS) programme, the monthly means-tested system of cash benefits to the unemployed who did not have substantial contributions to any insurance-based assistance. This act reformed many of the basic elements of this benefit to tighten eligibility and redefine benefit units, including the change in 1988 that increased the eligibility threshold for IS receipt from 16 to 18 (Dilnot & Walker 1989; Ogus et al 1995). While today this age threshold is commonplace, many young people in the late 1980s left school at age 16 to directly enter the labour market and may have had periods in unemployment before age 18, of which there was now no available assistance (Atkinson & Micklewright 1989; Bynner et al 1997; Dilnot & Walker 1989). The age of independence for a benefit unit thus was changed from age 16 to 18, and concurrent changes to Child Benefit resulted in young people now considered as part of their family's benefit until age 18.

For those between ages 18 and 25 who were an independent benefit unit, the introduction of a lower rate of Income Support also likely impacted a young person's ability to function independently of financial or residential assistance from their family. The language of the act implied that all young people remain dependent on their family of origin, with young people (and young workers) referred to as 'non-householders' in their parent's home who could therefore reap the benefits of shared accommodation and resources (Dilnot & Walker 1989; Harris 1989). The assumption of family support led to a standard practice of 'youth rates' in the UK welfare state beginning from that period onward, with lower rates for the under 25s in Income Support (now Jobseeker's Allowance), Housing Benefit, and in the youth minimum wage (Harris 1989). These policy changes implied to young people that the family rather than the state was the first port of call for welfare support, furthering the residualist nature of the cash benefit system and low de-familialization dimensions of a

[3] While this act overhauled many welfare state systems, the focus here is on those that are most likely to impact BCS respondents, so necessarily leaves out changes in policy areas like pensions.

liberal welfare state as it applies to young people (Chevalier 2016; Esping-Andersen 1999; Wilding 1997).

Another direct and unique intervention for the UK cohort in this study is the Youth Training Scheme (YTS), an 'activation' policy intervention in the UK specific to young people introduced in 1983 (HC Debate 02 February 1983) which was an iteration of the 'slowly evolving training programme' begun with the Youth Opportunities Programme (YOP) in 1978 (Bradley 1995). In 1986 the one year YTS programme was extended to cover two years of training (both on and off the job) for 16-year-old school leavers and one year of training for 17-year-old school leavers, with a guaranteed place available to all unemployed statutory school leavers (as priority places) and some 17 year-olds entering as non-priority cases (Bradley 1995; Bynner 2012; Dolton et al 2000). The recruitment of young people into the programme was performed by the Careers Service, a function of the local education authority which 'identified likely YTS participants before they left school, endorse[d] them for certain types of provision and then… arrange[d] interviews between the young person and a suitable managing agent [of the YTS programme in government]' (Bradley 1995, p. 38). This was a slightly more proactive approach by Careers Service than in the previous iteration of YOP, where Careers Service informed young people of YTS while in school and they then had to have a 6 week qualifying period of unemployment in order to access the YOP programme through the Manpower Services Commission (the government employment agency who delivered the programme) (Bradley, 1995).

It is important to recognise that the YTS programme was voluntary, and while a place was 'guaranteed' it was still up to the young person to accept the offer. The incentives for choosing to accept a place on a YTS scheme for young people was a weekly stipend of £27 to £30 a week in 1986 (slightly more than what was paid on unemployment benefit at the time) with the additional work experience and training element (Bradley, 1995; Dolton et al, 2004). In Bynner's review of the BCS cohort he notes that while the cohort was theoretically able to 'sign on' and receive unemployment benefits (as eligibility was withdrawn for 16 to 17 year olds only in 1988), many were encouraged to stay in school until 18 or join a Youth Training Scheme by Careers Services in their school (Bynner et al 1997). Dolton and colleagues (2004) also note that 'young people were made to wait for an increasingly long time' before unemployment benefits were paid, which may have also incentivised young people to enter YTS.

Once a young person agreed to enter the scheme, say at age 16 in 1986 (as the experience of the BCS cohort), they would be recommended to the YTS managing agent to be placed in either a 'basic' or 'premium' stream based on their skill level determined by the Careers Service in their former secondary school. This administrative feature of the programme is particularly notable, as researchers note that in many cases managing agents merely 'creamed' those deemed to be the ablest into the 'basic' scheme as a priority, where they would be able to be placed with employers almost immediately rather than in community work or further remedial training and managing agents would receive a commission for this placement (Bradley, 1995). Those who were in the 'premium' scheme were deemed to have more basic training needs before they would be placed with an employer. Most participants were placed into the basic scheme, where they would be placed within a firm along with a minimum of 20 weeks of off-the-job training in the course of a year (Dolton et al., 2004). In some cases, employers would also choose to take on YTS participants as 'employed', providing participants with a small additional top up to their stipend amount (although still less than a formal apprentice) in exchange for more trainees placed in their firm from managing agents at little cost to the employer (Bradley, 1995; Dolton et al, 2000). In this way firms could use YTS as a screening mechanism for 'borderline' apprenticeship candidates, where a YTS recipient would be treated as a lower-cost apprentice who would then be able to be kept on after the YTS programme duration if desired by the firm (Bradley, 1995; Dolton et al 2004). The experience of 'employed' YTS participants, however, is perhaps the 'best case' scenario for those who entered the scheme. In MacDonald and Coffield's qualitative research with low income young people in Teesside, they note that among their sample a 'common' experience was that those who participated in YTS at 16 and 17 then left the programme at 18 (when the official programme ended) to merely apply for unemployment benefits (1990).

Even though 15% of school leavers, or 263,000 young people, were on YTS in 1986, still a further 22% of school leavers were unemployed (Dolton et al 2001 & 2004), likely because the YTS scheme was voluntary. A key criticism of YTS from youth researchers is that the jobs available in the programme were concentrated in construction, mining and manufacturing; criticised for creating a bridge to work 'only to certain gender-typified jobs' (Coles 1995, p. 39). Some previous empirical work (which will be detailed in Chapter 2.4) addressed YTS impacts for different gender groups to consider these concerns, and it will also be possible to address the effects of YTS for both genders directly in this investigation. Importantly,

successive UK governments of both parties have implemented policies in the same vein as YTS, but notably with a greater focus on participants gaining National Vocational Qualifications at least to level 2, with less prescribed durations on the programme as with YTS (Dolton et al 2004). More recent iterations of government sponsored youth training, both in the New Deal for Young People (a New Labour initiative) and Work Programme (a Conservative initiative in the 2000s), were characterised by prescribed job training or workfare employment elements for young people in order to continue to receive any type of cash assistance, and therefore a smaller proportion of the youth population was involved in these programmes than in YTS. In 1988 the proportion of school leavers on YTS grew to 22% (Dolton et al 2004), and thus there may be a notable group of BCS sample members who participated in YTS at some point in their youth period.

The final notable area of welfare state transformation undertaken during the Conservative governments of the 1980s and early 1990s was in the area of housing policy, which had long term consequences for the UK cohort investigated here. Most researchers view the Right to Buy scheme as the most transformative policy change in this period, considered the 'cornerstone for a radical redesign in housing policy' (Pierson 1994, p.75). This policy gave any tenant in a council flat with more than 3 years' residence the opportunity to buy the flat at a discount, with sales peaking at 200,000 units in 1981 (Mullins et al 2006). This reduction in the provision of social housing by the government caused the rental housing sector to become tighter and more privatised, increased rents in both the social and private rental housing sector, and was a factor in increased levels of homelessness (Pierson 1994; Lowe 2005). Rather than providing social housing as the primary policy tool for assisting low income tenants, Housing Benefit became most common, where the government either paid rent in full or paid the difference in the rental contribution from the tenant via the Local Housing Allowance. Benefit tapers (the rate of withdrawal of benefit amount for every £1 earned over the earnings threshold) were increased from 17% of gross earnings in 1986 to 43% of gross earnings in 1988; which meant that Housing Benefit would be withdrawn faster and would put a lower ceiling on the earned income for eligibility (Berthoud 1989). These changes, combined with the introduction of a lower housing benefit rate for under 25s and the introduction of a capital limit for eligibility (£8,000 in 1989) (Berthoud 1989), resulted in Housing Benefit more targeted to the very worse off; the majority of Housing Benefit recipients today also receive another form of cash assistance (Browne & Hood 2012; Lowe 2005). The changes in targeting however did not decrease the overall

expenditure in the programme. In fact, between 1989-1990 and 1993-1994 the overall expenditure on Housing Benefit increased by 84% (Hood & Oakley 2014, p. 14). This increase is considered to be the result of the rapid increase in the number of private tenancies with higher rents than the social housing sector, the removal of rental controls of new tenancies beginning in 1989, and the recession of the early 1990s (Hood & Oakley 2014). Since that time the expenditure on Housing Benefit continued to grow, such that it is now one of the largest benefit programmes by expenditure in the UK welfare state portfolio (Browne & Hood 2012; Hood & Oakley 2014).

The policy changes above are the most notable in the youth phase of the UK cohort in this investigation, but it is also important to mention that the principles and policies set forth in the Conservative period were by and large accepted by subsequent Labour governments (Lowe 2005). Crucially, these policies combined with a new focus on workfare (translated from the American welfare state) to bring about a new wave of reforms in New Labour's 'New Deals'; the first of which was the New Deal for Young People (Daguerre 2004; Holmwood 2000; Lowe 2005; Walker & Wiseman 2003). A second related change was creation of the Jobseeker's Allowance (JSA) programme, introduced in Parliament in 1994 and passed in the Jobseeker's Act in 1995 by the Conservative government, and subsequently implemented in 1997 by New Labour (Strickland 1996). JSA replaced Income Support for childless adults with workfare principles at its core, which entrenched the contractualist welfare state principles in many programmes for UK cohort members from their mid-20s onwards (Lowe 2005; Manning 2009). New Labour also extended the use of tax credits as a poverty reduction tool which were implemented to 'top up' the wages of workers both with and without children[4] on a low income (modelled on the EITC in the United States) (Clegg 2015; Gregg et al 2009; Lowe 2005; Manning 2009). The introduction of JSA and the expansion of tax credits signalled a shift in the British welfare state towards a recipient's responsibility to work, with a primary goal of the programmes to promote 'activation' in the labour market (Clegg 2015). As mentioned in the previous section, these changes also necessarily revised who was defined as 'deserving' of government support (Dwyer 2004; Whitworth & Griggs 2013). While these policy changes did not directly impact the UK cohort in the youth period, they were available to cohort members in their adulthood survey waves.

[4] Those without children must be over 25 to be eligible for Working Tax Credit.

Aside from the changes in the welfare state, the BCS cohort was growing up in particularly challenging economic times as the result of Conservative economic and monetary policy (Lowe 2005; Soss et al 2004). Deindustrialisation in particular had profound impacts on this cohort's ability to attach to the labour market as readily as previous generations (Bynner 1997; Furlong & Cartmel 1997; Gallie & Paugam 2004; Heinz 2003; Scherer 2001), and the growing inequality and recession of the early 1990s would have likely affected a cohort members' transition outcomes. A higher reliance on the benefit system may indeed come as a result of these adverse economic conditions, which may be seen in empirical work on this sample. However, there is still a considerable proportion of young people during this time period who leave school and enter the labour market at 16, so this research may find earlier labour market attachment than would be expected for current cohorts. This research might also find a greater proportion of UK case members who access government assistance in the survey period because there are simply more assistance programmes available to them. The system of Income Support, a variety of lone parent credits and benefits, and Housing Benefit all have lower eligibility thresholds and serve more low income British citizens than means-tested benefits in the US, and therefore the welfare state interacted with in the UK cohort can be considered a more 'generous' system overall (Table 1).

The US welfare state of the National Longitudinal Survey of Youth 1997 (NLSY) cohort

The NLSY cohort was in the youth period in the late 1990s/early 2000s following one of the largest changes to the American system of cash assistance, 1996's Personal Responsibility and Work Opportunity Reconciliation Act[5] (PRWORA). This act fundamentally altered the system of cash assistance for low income families with children (Dreier et al 1994), abolishing the Aid to Families with Dependent Children (AFDC) programme and replacing it with the Temporary Assistance for Needy Families (TANF) programme (Moffitt 2003); 'ending welfare as we know it' (Clinton 1992). The dismantling of the cash assistance program – what most Americans think of when they think of 'welfare' – was the

[5] The statutory purpose of TANF is to 'increase state flexibility to achieve four goals: (1) provide assistance to needy families with children so that they can live in their own homes or the homes of relatives; (2) end dependence of needy parents on government benefits through work, job preparation, and marriage; (3) reduce out-of-wedlock pregnancies; and (4) promote the formation and maintenance of two-parent families' (Falk 2017).

culmination of the conservative principles of Murray (1984) and Mead (1986) put into practice. Not only did the passage of PRWORA change the cash assistance program, it reified the US as an exemplar of the principles of a liberal welfare state: becoming more residualist, paternalistic, and contractualist towards the majority of working-aged citizens on a low income. The NLSY cohort therefore likely had a very different experience with government assistance programmes than those in the BCS cohort primarily because many of the programmes in the United States were not eligible to be received or were not accessed by those eligible; an issue returned to in Chapter 2.4. Importantly, there is also no large-scale government training programme in the United States comparable to YTS available to the NLSY cohort. In general, any job training assistance for young people without children is accessed via Workforce Development Centers voluntarily rather than as part of obligations to receive cash assistance, and the small JobCorps training programme for low income young people is not of comparable scope to be included as an intervention in this investigation (Fernandes-Alcantara 2017).

The two programmes detailed in depth here are the Temporary Assistance for Needy Families (TANF) programme and the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps), as these are the two most notable programmes in the US welfare state that affect the life course of the NLSY cohort investigated. There are other programs available to low-income Americans that may indeed impact a small minority of sample members (most notably Housing Choice Vouchers) which are detailed below, as well as poverty reduction programs that comprise a large part of the safety net for low-income workers (e.g. Earned Income Tax Credit, Unemployment Insurance, Medicaid). These programs are not explicitly investigated in this empirical work but impact the overall 'safety net' available for low income Americans which cohort members may have accessed later in the survey period. Of particular note is the Earned Income Tax Credit, which has expanded since its introduction in the 1970s to now serve as the largest poverty reduction programme in the United States for the non-elderly (Moffitt 2016; Meyer & Wu 2018; Shapiro et al 2017). In 2013, a total of $68.1 billion was claimed by 28.8 million tax filers (19% of all tax filers) that serves primarily families with children; indeed, 97% of all EITC dollars were claimed by these families (Falk & Crandall-Hollick 2016). Importantly in the context of this investigation, Americans without children under the age of 25 are not eligible to receive EITC.

The TANF program was the first federally mandated implementation of workfare principles for citizens who participated in the cash assistance programme, following state AFDC waiver programmes in the 1980s which served as workfare pilots (Blank 2009; Handler 2004; Moffitt 2003; Pierson 1994). A major policy change in TANF was that federal funding was administered as a matching block grant to states rather than federally administered, which states were able to spend on a combination of cash assistance and non-cash assistance programmes as desired. This could range from workforce training programmes to childcare subsidies and homelessness assistance (Falk 2014). One of the TANF programme's stated goals was to end 'welfare dependency', in particular to solve the 'problem' of families receiving AFDC benefits for many years and not engaging in the labour market[6]. This goal was translated by public administrators into caseload reduction targets achieved through tighter eligibility requirements, the introduction of work conditionality, and lifetime limits on cash assistance (Falk 2014; Moffitt 2003).

While TANF regulations were set at federal minimums (e.g. the 60-month lifetime limit on cash assistance), states were given wide berths to make programmes more restrictive and many did (e.g. Alabama's lifetime limit set at 24 months) (Falk 2014; Kassabian et al 2013). This state flexibility resulted in large variation in both the cash assistance programmes and the non-cash assistance programmes that states chose to fund (Falk 2014; Fellows & Rowe 2004; Kassabian et al 2013; Moffitt 2003). Variation by state is particularly notable in the amount of maximum cash benefit for a family of three, which can range from $770 a month in New York state to $142 in Tennessee (Falk 2014, p.13). Although some of this variation is due to the state's cost of living, most scholars also believe that the political values of the state are reflected in the generosity of the TANF programme, with traditionally Conservative states tending to enforce stricter regimes for cash assistance (Fellows & Rowe 2004). TANF funds given as block grants to states also resulted in steep declines on average of the percentage of federal and state funding going to cash assistance across the nation:

[6]The group of families who are 'long term dependent' on AFDC benefits was identified by Bane and Ellwood in 1994's *Welfare Realities*, which extended their work on poverty dynamics (1986) to understand the population of low income Americans receiving AFDC. Researcher David Ellwood was brought into the Clinton Administration to help craft policies to address this issue, and in the 1994 book proposed a move away from 'workfare' jobs for recipients, more support for childcare, and more programmes to 'make work pay' (a higher minimum wage, medical insurance and expanded EITC) to solve the problem of long term dependency (1994, pp. 148-150). However, once the administration's and Congress' proposals were brought to Ellwood for review, the harsh sanctions, time limits and continuance of workfare principles moved further away from the policies proposed in his research, and he resigned his position in government in protest (DeParle 2004).

whereas around $0.70 of every $1.00 went to cash assistance in the AFDC programme each year, only around $0.30 of every $1.00 every year on average goes to cash assistance in the TANF programme (Ziliak 2016, p.304). Federally and at every state level, the TANF programme therefore spends the majority of funding on in-kind transfers such as childcare subsidies, mental health services, or substance use counselling.

The introduction of TANF was followed by an extremely steep decline in the TANF caseload (Moffitt 2003). The national caseload declined by 50% between 1997 and 2001 (Loprest 2012), and notably reduced the percentage of single mothers the programme served: whereas in 1990 around 50% of poor single mothers received AFDC, by 1999 that rate had reduced to around only 30% (US DHHS 2001 in Moffitt 2003, p. 309). The dramatic decline in caseloads has been attributed to a variety of factors, with the positive macroeconomic climate of the mid- to late-1990s in the United States considered the largest driver of the decline and TANF policies accounting for around 20% of the decline (Grogger & Karoly 2005). The deterrent effects of a workfare regime must also be considered when viewing caseload declines. Work by Besley and Coate (1992, 1995) found that the requirements of workfare can be used as a screening device to deter the 'most able' from entering programmes, and by 2016 32 states had 'formal diversion programs' which kept eligible applicants off caseloads by giving them a 3-month lump sum payment in lieu of monthly assistance (Ziliak 2016, p.319). The main TANF policy change contributing to this decline was the lowering of income and asset thresholds, and in many states in order to be eligible for assistance a participant has to earn less than half of the poverty line per month (Falk 2014). Therefore, those who are in the TANF caseload are a population with more unstable work histories and are more likely in deep poverty than those who left the caseload when PRWORA was introduced, or who are poor and who do not receive TANF (Frogner et al 2009).

PRWORA may have been the most effective at changing the obligations the state has to low income families. Importantly, note Edin & Shaefer (2016):

> …under the new plan, no one with children would have the *legal right* to receive a dime of cash welfare from the government, even if the family had no other means of support. The old welfare program, AFDC, had ensured that right (25).

The loss of these rights cannot be overstated. This change meant that for the NLSY cohort and other low income families (generally single mothers with children), the TANF

programme is for many reasons unavailable or not accessed (Edin & Shaefer 2016; Floyd et al 2017; Hays 2006).

The second programme explicitly modelled in this research is the Supplemental Nutrition Assistance Program (SNAP), called the Food Stamp program until 2002. Operating nationwide since 1974, an important characteristic of Food Stamps/SNAP is that it provides a 'uniform, minimum, nationwide threshold below which assistance cannot fall' (Currie 2003, p.200), in part to offset the variation in other cash assistance programmes. SNAP has income thresholds above that of TANF (e.g. 130% of the federal poverty level (FPL) compared to 100% FPL or below for TANF), and provides monthly cash benefits on a debit-like EBT card to use on 'qualifying purchases' for food (Aussenberg 2014). For families with children there are no work requirements as in TANF, and there are less stringent eligibility requirements for SNAP for those without children. This results in a different population of Americans served by the programme compared to TANF. Overall SNAP families are not nearly as poor and have a higher proportion with earned income; nationally around 44% of families have earned income but still 40% with incomes at or below half the poverty line (UDSA 2017). The interplay between TANF and SNAP is also particularly valuable to consider when viewing the forthcoming empirical results. Those who receive TANF are categorically eligible for SNAP but the share of SNAP recipients who are also receiving TANF dropped considerably after PRWORA, from around 37% to only 5% of the SNAP population in 2016 (FNS 2017). Unlike TANF, SNAP assistance is also not restricted to (primarily) single parents. While still an important recipient group, the share of SNAP recipients who are single parent households declined after the Great Recession when more families became eligible due to low incomes, such that around a quarter of recipients were in single parent families in 2012 (CBPP 2018). However the majority of eligible single parent families do indeed take up SNAP benefits as opposed to the take up challenges seen in the TANF programme (CBPP 2018; Currie 2003). SNAP has been found to reduce post-tax and transfer poverty among the large number of Americans it serves, and is considered to be one of the most successful poverty reduction programmes in the country[7] (Currie 2003; Ziliak 2016).

Although SNAP is able to reach a larger number of low income Americans, PRWORA legislation also enforced work requirements and time limits in the SNAP programme for able bodied adults without children for the first time. Generally, if a recipient works less

[7] Empirical evidence regarding the poverty reduction effects of SNAP are detailed in Chapter 2.4.

than 20 hours a week or fails to meet the other work-related requirements they can only receive SNAP for 3 months in any 36-month period (although this was waived during the Great Recession from 2009 to 2013) (Aussenberg 2014; Currie 2003; Hoynes & Schanzenbach 2013). In 2013 around 13.3 million Americans were subject to work requirements in order to receive SNAP (Aussenberg 2014, p. 9). However, the population of SNAP recipients in one person households (around 53% of recipients nationally) are not particularly deterred by these requirements as many have earned income of some kind or are disabled (FNS 2017). Generally speaking, however, the NLSY sample members who receive SNAP will be in families with children, as many of the single adult households in the nationwide SNAP figures are elderly (FNS 2017).

A smaller programme of note received by NLSY sample members is the supplemental SNAP Women, Infants and Children Program (SNAP-WIC), which provides 'food, nutrition education, breastfeeding promotion and support, and referrals to health care and social services to nutritionally at-risk, low-income pregnant women, new mothers, infants, and children up to age 5' (FNS 2017). The USDA reports that for the last 10 years WIC has served between 55 to 64% of those who are eligible for the programme. Because this programme is specific to women and their young children, those who are WIC eligible are also SNAP eligible for other food purchases. WIC recipients are included in the empirical estimates of 'SNAP receipt' in this investigation, and because of this the results here may find a particularly higher proportion of those who are young parents who access SNAP/SNAP-WIC in this sample.

SNAP has been proven responsive to economic downturns because almost any family type living under 130% of the federal poverty level is eligible, which resulted in a large increase in caseloads during the Great Recession (Hoynes & Schanzenbach 2016). Nearly one in seven Americans participated in SNAP in 2014 and the program raised the post-tax and transfer income of 4.7 million people, including 2.1 million children, above the federal poverty line (CBPP 2015). For many low income families and for low income childless Americans, SNAP is the only government assistance they can or do receive (Edin & Shaefer 2016), indicating a particularly threadbare safety net during the youth transition period for the childless members of the US cohort investigated here. It is also important to consider when analysing the impact of SNAP that it is an in-kind benefit, and does not work for recipients in the same way that a cash assistance benefit would: it does not pay rent, keep

the electricity on, or buy children clothes for school. While SNAP is indeed a lifeline for families in the United States, it still does not provide the freedom of cash (Edin & Shaefer 2016).

Finally, there are some smaller programmes included in the upcoming empirical models of 'benefit receipt' that are worth mentioning here, with housing assistance most notable due to its divergence from the British case. The proportion of Americans receiving housing assistance is less than half of that in the UK; just 3% of the total population, or 4.8 million households in 2014 (CBO 2015). This is primarily because housing assistance is not an entitlement programme based on income alone, and the amount of funding given to local Public Housing Authorities for places in Public Housing, Project Based Rental Assistance, or for Housing Choice Vouchers has always been an area of discretionary spending (CBO 2015). Housing Choice Vouchers are the largest element of housing assistance in the US ($18 billion spent in 2014) that are generally targeted to families with children and the elderly, which pays the difference between 30% of the tenant's monthly income and the cost of area market rent to an approved private landlord (CBO 2015; HUD 2015). Because funding levels for housing assistance are fixed within a Public Housing Authority, in most parts of the country need far outstrips the numbers of vouchers available – in Baltimore, Maryland, for example, the waiting list for vouchers only opens once every decade, and then only roughly 1,000 to 1,500 families a year receive a voucher out of upwards of 50,000 families on the list (Wenger 2014).

Importantly, those who receive housing assistance are generally poorer than those eligible for other programs (such as SNAP), as 'initial eligibility for federal housing programs is limited to households with no more than 50 percent area median income (AMI), and roughly three quarters of assisted households have income of no more than 30 percent of AMI' (CBO 2015). While Americans living in the very poorest of households are eligible for housing assistance, still 'only about one-quarter of eligible families get any type of rental subsidy' (Edin & Shaefer 2016, p. 77). Families that receive housing assistance have higher post-tax and transfer income, lowered risk of homelessness and living in overcrowded units, and decreases in the likelihood that the family will have to move in a five-year period (i.e. a reduction in housing instability) (Briggs 2005; Edin & Shaefer 2016; Dreier et al 2001; Rosenbaum & Argeros 2005). However, because of the eligibility limitations only a very small number of NLSY cohort members receive any sort of housing assistance during the

survey period. The final programme to consider is Supplemental Security Income (SSI), a cash benefit for low income people with disabilities: all those who receive SSI must have a disability and meet asset and income requirements. The programme serves roughly 8 million Americans of all ages annually (Moulta-Ali 2013), and therefore there will likely be a small minority of NLSY cohort members who receive SSI.

Unlike the BCS cohort, the NLSY cohort was in the youth period in a time of economic expansion and low unemployment, and for this reason it is expected that fewer respondents will access government assistance in the youth period. This, along with the fewer number of government programmes available for low income Americans, will likely result in a much smaller percentage of the NLSY cohort who receive government assistance than the BCS cohort. As detailed in the previous section, young people in the US are not considered a deserving subpopulation for government intervention as explicitly as in the UK cohort and therefore low-income young people under age 25 are simply not eligible for government assistance to the same extent as young people in the UK. This contrast can be seen by viewing Tables 1 and 2, which summarise the means-tested benefit systems in the UK and the US that were available to the BCS and NLSY cohort members between age 16 and 24 (what is considered the youth period for this investigation), broken down by family type. What is particularly notable is the dearth of programmes available for young people in the US cohort without children, the much more stringent conditions of benefit receipt and time limits that characterise the US system from 1996 onwards, and the state variation in programmes (which are captured by the last two columns on the right in Table 2). Finally, a summary of key welfare reforms as they relate to the cohorts of this investigation are detailed in the timeline in Figure 1.

Table 1: UK benefit system entitlement, BCS sample members without a disability in the youth period

Programme Name	Benefit type	Eligibility Criteria	Conditions of receipt	Maximum monthly amount
Family type: single without children				
Supplementary Benefit (1986-1988)	Cash assistance	Low income unemployed 16 or older	Must be available for employment and not working more than 24 hours a week	If ind benefit unit, £29.80/wk in 1986
Income Support (1988-)	Cash assistance	Low income, unemployed and available for employment	Must be available for employment and not working more than 24 hours a week	If ind benefit unit, £31.15/wk in 1991
Unemployment Benefit	Cash assistance	Unemployed with National Insurance contributions	Must be available for employment	£41.40/wk in 1991
Housing Benefit	In-kind, full rent or portion paid to landlord	Low income	Assets and earned income not above threshold; £8,000 capital limit in 1991	Amount paid to landlord determined by earned income of respondent and withdrawn at rate of £0.43 for income £1 over threshold (1989 regs), lower youth rate
Council Tenancy	In-kind, place in social housing	Low income	Assets and earned income not above threshold; £8,000 capital limit in 1991	

Family type, couple without children				
Supplementary Benefit (1986-1988)	Cash assistance	Low income including partner income , unemployed 16 or older	Must be available for employment and not working more than 24 hours a week	£48.40/wk in 1986
Income Support (1988 -)	Cash assistance	Low income including partner income, unemployed 18 or older	Must be available for employment and not working more than 24 hours a week	£62.25 in 1991
Unemployment Benefit	Cash assistance	Unemployed with National Insurance contributions	Must be available for employment	£41.40 in 1991
Housing Benefit	In-kind, rent paid to landlord	Below low income threshold including partner income	Assets and earned income not above threshold	Amount paid to landlord determined by earned income of respondent and withdrawn at rate of £0.43 for income £1 over threshold (1989 regs)
Council Tenancy	In-kind, place in social housing	Below low income threshold including partner income	Assets and earned income not above threshold	

Family type, couple with children				
Supplementary Benefit (1986-1988)	Cash assistance	Low income including partner income, unemployed 16 or older	Must be available for employment and not working more than 24 hours a week	£58.60/wk with one child under 11 in 1986
Income Support (1988 -)	Cash assistance	Low income including partner income, unemployed 16 or older	Must be available for employment and not working more than 24 hours a week	£75.60/wk with one child under 11 in 1991
Unemployment Benefit	Cash assistance	Unemployed with National Insurance contributions	Must be available for employment	£41.40/wk in 1991
Housing Benefit	In-kind, rent paid to landlord	Below low income threshold including partner income	Assets and earned income not above threshold	Amount paid to landlord determined by earned income of respondent and withdrawn at rate of £0.43 for income £1 over threshold (1989 regs)
Council Tenancy	In-kind, place in social housing	Below low income threshold including partner income	Assets and earned income not above threshold	
Child Benefit	Cash assistance	Threshold only if high-income family, child under 18		£9.25/wk for one child in 1991
Family Credit	Cash assistance	Maximum amount available for families on low income, reduced with income over threshold to certain amount	At least one family must be working	Average amount of family credit was roughly £57/week in the mid-1990s

Family type, lone parent				
Supplementary Benefit (1986-1988)	Cash assistance	Low income, unemployed 16 or older	Must be available for employment and not working more than 24 hours a week	£50.00/wk with one child under 11 in 1986
Income Support (1988 -)	Cash assistance	Low income, unemployed 18 or older	Must be available for employment and not working more than 24 hours a week	£52.98/wk with one child under 11 in 1991
Unemployment Benefit	Cash assistance	Unemployed with National Insurance contributions	Must be available for employment	£41.40/wk in 1991
Housing Benefit	In-kind, rent paid to landlord	Below low income threshold including partner income	Assets and earned income not above threshold	Amount paid to landlord determined by earned income of respondent and withdrawn at rate of £0.43 for income £1 over threshold (1989 regs)
Council Tenancy	In-kind, place in social housing	Below low income threshold including partner income	Assets and earned income not above threshold	
Family Credit	Cash assistance	Maximum amount available for families on low income, reduced with income over threshold to certain amount	Family must be working	Average amount of family credit was roughly £57/week in the mid-1990s
Child Benefit (Lone parents)	Cash assistance	Threshold only if high income family, child under 18		£14.85/wk with one child in 1991

Sources: Dilnot & McCrae 1989; Berthoud 1989; Institute for Fiscal Studies 2013; Ogus et al 1995; Rutherford 2013. Note: This table does not include any health benefits delivered through the NHS which is free at the point of use or disability benefits, which were not included in this analysis. The YTS programme is also not included in this table because it is not a means-tested assistance programme, although BCS sample members did access this intervention (detailed on pp 28-31).

Table 2: US benefit system entitlement, NLSY sample members without a disability in the youth period

Programme Name	Benefit type	Eligibility Criteria	Conditions of receipt	Maximum monthly amount	Duration/time limit	Access limitations
Family type: single without children						
SNAP	In-kind; EBT card for qualifying food purchases	Must be over 18 and have gross income < 130% of FPL; net income < 100% FPL, assets below roughly $2,000. Must not be enrolled in higher education.	To be eligible continually must be working more than 20 hours/week or performing work-related activities (including job search), states can tighten these conditions	Roughly $175; benefit amounts determined by cost of Thrifty Food Plan and 30% of net income	If not meeting conditions can only receive SNAP for 3 months in any 36 month period but can be waived by state agencies if state has high unemployment.	
General Assistance	Cash assistance (in some states given directly to landlord for rent/utility payments)	Very low income (often under 50% FPL) who is not eligible for TANF or SSI.		GA amounts vary by state. Range from $95 to $455/mo for non-disabled. Most benefit levels less than half the poverty level income for single adult.	Varies by state.	Only available in 30 states and is state-funded only. In some states (12 in FY2011), a person can be 'employable' but in others a person must be 'unemployable' but does not qualify as having a disability.
Public Housing/Housing Choice Voucher	In kind, either place in public housing unit or voucher amount paid directly to private landlord	Limited to those (primarily to families) with no more than 50% AMI		For housing choice vouchers, amount based on the difference between 30% tenants income and amount of rent		Families with children prioritised for assistance only in cases of persistent homelessness or disability. Funding also fixed in housing authority so assistance limited.

Unemployment Insurance	Cash assistance	Must have qualifying contributions through previous employment and seeking work		Amount varies by state, from low of roughly $230 to $650. Aim to replace half of workers earnings, but does not do so for previously high earners.	Generally 26 weeks maximum	For young people, employment contributions may not sufficient to be eligible for UI

Family type, couple without children						
SNAP	In-kind; EBT card for qualifying food purchases	Must be over 18 and have gross income < 130% of FPL; net income < 100% FPL, assets below roughly $2,000	To be eligible continually must be working more than 20 hours/week or performing work-related activities (including job search) , states can tighten these conditions	Roughly $350, determined by cost of Thrifty Food Plan and 30% of net income	If not meeting conditions household can only receive SNAP for 3 months in any 36 month period but can be waived by state agencies if state has high unemployment	
Public Housing/Housing Choice Voucher	In kind, either place in public housing unit or voucher amount paid directly to private landlord	Limited to those (primarily to families w/children) with no more than 50% AMI		For housing choice vouchers, amount based on the difference between 30% tenants income and amount of rent		Families without children prioritised for assistance only in cases of persistent homelessness or disability for one or both members of family. Funding also fixed in housing authority so assistance limited.

Unemployment Insurance	Cash assistance	Must have qualifying contributions through previous employment and seeking work		Amount varies by state, from low of roughly $230 to $650. Aim to replace half of workers earnings, but does not do so for previously high earners.	Generally 26 weeks maximum	For young people, employment contributions may not sufficient to be eligible for UI

Family type, couple with children						
SNAP	In-kind; EBT card for qualifying food purchases	Must be over 18 and have gross income < 130% of FPL; net income < 100% FPL, assets below roughly $2,000		Dependent on household size. For household of 3, max benefit of roughly $500/month; dependent on cost of Thrifty Food Plan and 30% net income and deductions		
SNAP-WIC	In-kind; EBT card for qualifying food purchases along with health referrals and other programmes	Must be eligible for SNAP and have household member who is pregnant/post-partum.		Although varies by state, food package around $55/month.	If remaining eligible SNAP-WIC support continual until child is 5 if deemed at nutritional risk due to medical reasons	Not an entitlement programme: when state funds run out those eligible cannot be served.
EITC	Earnings subsidy delivered as reduction in tax liability or refund if very low earnings.	Must have qualifying child to be eligible for EITC; maximum earned income amount is $9,720 before phase-out.	Must have earnings.	Families with one child maximum credit amount is $3,350		

Child Tax Credit	Reduction in tax liability/refund if very low earnings	Must have child under age 17; phase outs begin at limits of $110,000 for married filers filing jointly		$1000 per child before phase out		
TANF	Cash assistance	Gross income <100% FPL and not receiving UI.	With some exceptions varying by state, adults required to participate in work or workfare activities.	Benefit levels vary by state and number of dependents, and range in lower 48 from maximum of roughly $142 in TN to $770 in NY for family of three (single parent, 2 children)[8]	Federal lifetime limit for TANF is 60 months, although states tighten to shorter lifetime duration (e.g. 24 months)	Eligibility for TANF with families in couples is very limited, varying by state. In most states this family type is not eligible.
Public Housing/Housing Choice Voucher	In kind, either place in public housing unit or voucher amount paid directly to private landlord	Limited to those (primarily to families w/children) with no more than 50% AMI		For housing choice vouchers, amount based on the difference between 30% tenants income and amount of rent		Funding also fixed in housing authority so assistance limited; roughly 25% of eligible families receive assistance.
Unemployment Insurance	Cash assistance	Must have qualifying contributions through previous employment and seeking work		Amount varies by state, from low of roughly $230 to $650. Aim to replace half of workers earnings, but does not do so for previously high earners.	Generally 26 weeks maximum	For young people, employment contributions may not sufficient to be eligible for UI

[8] Annual information about TANF policies in each state can be found in the *Welfare Rules Databook*s, which are housed at the Department for Health and Human Services.

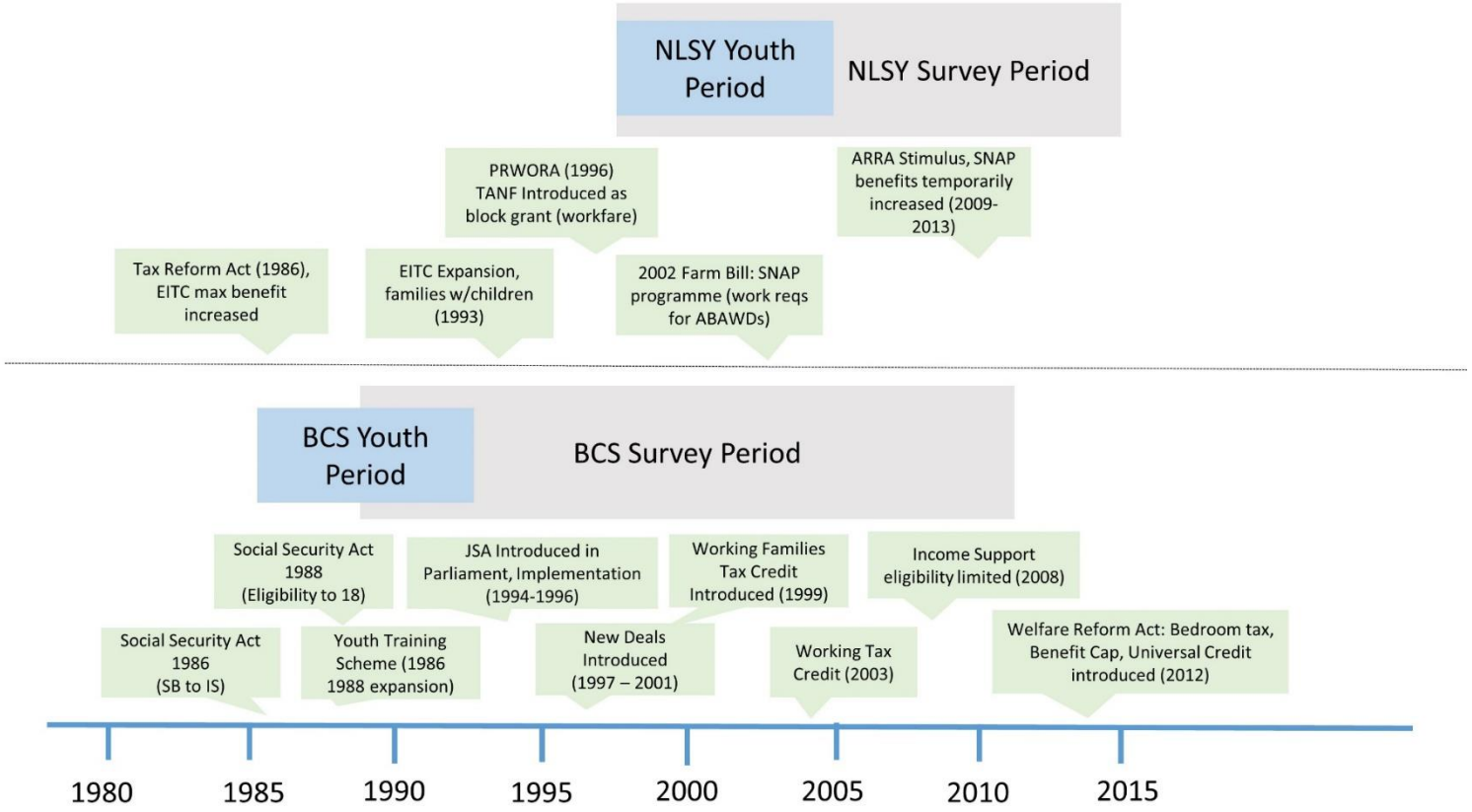
Family type, lone parent						
SNAP	In-kind; EBT card for qualifying food purchases	Must be over 18 and have gross income < 130% of FPL; net income < 100% FPL, assets below roughly $2,000		Dependent on household size. For household of 3, max benefit of roughly $500/month; dependent on cost of Thrifty Food Plan and 30% net income and deductions		
SNAP-WIC	In-kind; EBT card for qualifying food purchases along with health referrals and other programmes	Must be eligible for SNAP and have household member who is pregnant/post-partum.		Although varies by state, food package around $55/month.	If remaining eligible SNAP-WIC support continual until child is 5 if deemed at nutritional risk due to medical reasons	Not an entitlement programme: when state funds run out those eligible cannot be served
EITC	Earnings subsidy delivered as reduction in tax liability or refund if very low earnings.	Must have qualifying child to be eligible for EITC; maximum earned income amount is $9,720 before phase-out begins	Must have earnings.	Families with one child maximum credit amount is $3,350		
Child Tax Credit	Reduction in tax liability/refund if very low earnings	Must have child under age 17; phase outs begin at limits of $75,00 income for single earner		$1000/yr for each qualifying child		

TANF	Cash assistance	Gross income <100% FPL and not receiving UI.	With some exceptions varying by state, adults required to participate in work or workfare activities.	Benefit levels vary by state and number of dependents, and range in lower 48 from maximum of $142 in TN to $770 in NY for family of three (single parent, 2 child)	Federal lifetime limit for TANF is 60 months, although states tighten to shorter lifetime duration (e.g. 24 months)	
Public Housing/Housing Choice Voucher	In kind, either place in public housing unit or voucher amount paid directly to private landlord	Limited to those (primarily to families w/children) with no more than 50% AMI		For housing choice vouchers, amount based on the difference between 30% tenants income and amount of rent		Funding also fixed in housing authority so assistance limited; roughly 25% of eligible families receive assistance
Unemployment Insurance	Cash assistance	Must have qualifying contributions through previous employment and seeking work		Amount varies by state, from low of roughly $230 to $650. Aim to replace half of workers earnings, but does not do so for previously high earners.	Generally 26 weeks maximum	For young people, employment contributions may not sufficient to be eligible for UI

Sources: CBPP 2008, 2014; CBO 2015; Currie 2016; Falk 2017; IRS 2018; Moffitt 2016,

Note: This table does not include the Medicaid programme of the Children's Health Insurance Program, which are available to families with children living under 100% FPL or 200% FPL respectively, as this investigation did not engage with healthcare benefits.

Figure 1: Timeline of Key Welfare Reforms and the US and UK cases of this investigation



Unique Features of the US Policy Context

Apart from the programmatic differences in the system of benefits for low income citizens in each country, there are two unique features to the US context that impact the welfare state in practice. For Alesina and colleagues, two characteristics of the United States – federalism and race – are primary reasons why the US welfare state does not have the same redistributive functions as European welfare states, or even other liberal welfare states (2001). The founding of the United States as a 'federation of independent territories' (Alesina et al 2001) results in political institutions that are 'are constructed to minimize or, if possible, avoid the exertion of concentrated power' (Radin & Boase 2000, p. 67). This de-concentration of power is built into the American system of governance, with very little power in the hands of the federal government and a large role for states and local governments in the creation and implementation of policies (Krane 1993; Radin & Boase 2000). As illustrated in the TANF programme, many of the decisions on eligibility and recipient requirements for some government assistance programmes are left to state actors and are therefore prone to a state government's attitude towards benefit recipients. Redistributive policies like TANF and Housing Assistance in particular become challenging to implement evenly across states because 'issues that involve redistribution cut closer than any others along class lines and activate interests in what are roughly class terms' (Lowi 1964, p. 707). In practice, a federalist system results in an uneven distribution of program benefits (both cash and non-cash) to low income Americans. For the US cohort members investigated here, their location may therefore play an outsized role in their eligibility and access to government assistance[9].

This stands in stark contrast to the United Kingdom's welfare state functioning during the BCS cohort's youth period, where cash assistance in the Department for Work and Pensions portfolio was administered centrally and was not devolved as it is for more current cohorts. The Thatcher government in particular centralised more power in the executive, especially in the areas of housing policy and education, and was able to therefore bring about incremental changes (like benefit freezes) to all localities at once with no recourse available from other governmental actors (Soss et al 2004). These practices were continued in subsequent centre-left and centre-right governments (Lowe 2005). Although there may be

[9] Please see the Chapter 3 for more detail on how this issue is addressed in this investigation and the limitations of this investigation in addressing state variation in government assistance.

variation in outcomes by region in Britain for economic reasons, there is not variation in welfare state functioning by region that would potentially cause unequal outcomes as in the United States for this UK sample. However, an investigation of welfare programmes using current cohorts of young people would need to take into account devolved powers of the Northern Irish executive, Welsh Government and the Scottish Government. In particular, the Scotland Act of 2016 gave new powers to administer benefits in devolved areas and supplement some benefit payments in reserved areas (including Universal Credit, tax credits and Child Benefit), which are currently being implemented by the Social Security Act of 2018 of the Scottish Parliament (Scottish Government 2018).

Any analysis of the American welfare state must necessarily include a discussion of the pervasive power of race and racism in shaping the economic circumstances of minority communities, and the related public attitudes and subsequent policy choices towards those who receive government assistance. Communities of colour (notably Black communities) in the United States have been subject to both explicit and implicit policies which have limited educational attainment and social mobility, as well as increased social and geographical isolation. A particularly notable example of a discriminatory policy with institutionalised racism is in housing, where the practice of redlining has impacted nearly every economic and social outcome for Black Americans as a demographic group. Most researchers consider the practice to have begun in the 1930s by the Home Owners Loan Corporation (HOLC), a federal institution that created maps for use in the home loan industry nationwide that drew boundaries based on the riskiness of lending starting with 239 American cities (Hillier 2003). Neighbourhoods the HOLC determined 'most risky' were coloured in red (hence the term 'redlining'), and lenders used these maps to decide where to make loans and what types of loans to make (Hillier 2003). And although other organisations such as the Federal Housing Administration (FHA) undertook a similar risk assessment system of neighbourhoods for home loans, the colour-coded HOLC maps illustrated the difference in neighbourhoods most clearly[10]. A neighbourhood's 'riskiness' was influenced in particular by the belief that Black residents would decrease property values in a White neighbourhood, and the resulting maps were consistently drawn to delineate White and Black neighbourhoods; systematic economic underinvestment by

[10] For examples of historical redlined maps from the HOLC, see Aaronson et al 2017.

private and public institutions in Black neighbourhoods and their citizens in the 1930s and beyond followed (Drier et al 1994; Hillier 2003; Massey & Denton 1993).

After World War II, the Federal Housing Administration used these same maps to determine which American GIs would be able to get home loans in the post-war housing boom. Black residents, more likely to live in these redlined neighbourhoods, were systematically discriminated against in accessing FHA loans to own homes in these or in new suburban neighbourhoods, while some of these suburban neighbourhoods explicitly barred Black Americans from moving into their community (Massey & Denton 1993). Researchers have recently determined that persistent housing discrimination and systematic lack of access to credit for African Americans can be linked directly to the practice of redlining (Aaronson et al 2017); negative outcomes for communities of colour that are felt even decades after the practice was outlawed by the Fair Housing Act of 1968 (Dreier et al 1994).

A country-wide character of institutionalised racism, or 'to extent to which racism is embedded in the dominant organizations and power structure of society' (Wade 1993, p. 543 in Hardaway & McLoyd 2009), results in disparate outcomes for Black and Latino Americans across every indicator of income, education and social mobility such that 'racial stratification maps on to socioeconomic stratification' (Hardaway & McLoyd 2009, p. 247; Jones 2000; Wilson 1987 & 1996). Redlining is perhaps the most clearly illustrated example of institutionalised racism, where the negative effects of housing discrimination for communities of colour expanded into other areas of social and economic life. What is perhaps most notable about the effects of redlining – and today's less explicit forms of housing discrimination and credit accessibility issues – is the way that these policies limit wealth creation for African Americans, which affects current and intergenerational wealth for this group (Austin-Turner & Ross 2005; Briggs 2005; Oliver & Shapiro 1995). Chetty and colleagues' work on intergenerational mobility confirms that even for Black families at the top of the income distribution, the lack of wealth inhibits the ability for a family to pass down advantage compared to White families with the same income: 'Indeed, a Black child born to parents in the top quintile is roughly as likely to fall to the bottom family income quintile as he or she is to remain in the top quintile; in contrast, White children are nearly five times as likely to remain in the top quintile as they are to fall to the bottom' (2018, p. 3). The problem of the Black/White wage gap and poverty gap is also (perhaps even more

notably) a Black/White wealth gap (Oliver & Shapiro 1995), and notably changes the way that young Black Americans are advantaged by their family of origin.

While this disparity in poverty concentration and wealth is a phenomenon in the United States that has existed since social research began, concentrated poverty in the African American community brought about by overt and de facto racism was brought to the forefront of the national consciousness in Gunnar Myrdal's *An American Dilemma* (1944). This issue entered the national policy conversation later, most notably in the *Moynihan Report* in 1965 (Acs et al 2013). The report concluded that racist policies were to blame for concentrated poverty among Black Americans; a problem the authors stated was exacerbated by the rise of 'out of wedlock' births that signalled the 'destruction' of the nuclear family for Black Americans (Acs et al 2013). Conservative authors in the 1980s interpreted the Moynihan Report results to conclude that the primary problem facing Black Americans was a 'culture of poverty' (Murray 1984) that should be solved by paternalist and contractualist policies (King 1999). This conservative explanation shaped the dominant narrative about the causes of poverty for Black Americans and shaped how White Americans in particular view the role of the welfare state in assisting the poor (Fraser & Gordon 1994; King 1999; Soss et al 2004). Although there are a higher proportion of Black and Latino Americans who are poor there is a larger number of White Americans who are poor (US Census Bureau 2017): indeed, the problem of poverty is one that cuts across racial boundaries. However, the 'culture of poverty' description is viewed by Whites as not applicable to their own racial group (Gilens 1996; King 1999). Gilens' research with white Americans found that 'beliefs about blacks in general, and black welfare mothers in particular, are substantially more important in shaping whites' welfare views than beliefs about the poor or perceptions of white welfare mothers' (Gilens 1996, pg. 601 in King 1999). In the United States, then, the problem of welfare dependency and related poverty is viewed as a culturally-specific racial minority problem (Soss et al 2004).

These views are exacerbated for communities that are segregated, as each group is able to distance themselves from the problem of the 'other' and entrench racist narratives (Dovidio 2005) which can lead to lower support for redistributive programmes like TANF. This hypothesis was tested by Alesina, Baquir and Easterly (1999) who found that states that have higher levels of residential segregation spend a smaller fraction of their budget on social services and more on crime prevention; as public officials and the citizens who voted

for them see little need for more social services to aid the poor. Further work by Soss and colleagues (2004) and Fellows and Rowe (2004) both identify the role that racial attitudes play in changes to state TANF policy, confirming that the greater proportion of African Americans in a state, the lower the benefit levels and tighter eligibility requirements in the state's TANF program.

The both imagined and real connection between minority groups, poverty and government assistance is a phenomenon not nearly as prevalent in the United Kingdom case (although income and social mobility disparities exist by ethnicity, see Weekes-Bernard 2017), and not for the BCS cohort, where over 90% of the sample is White. Future work with British cohorts however will need to engage with inequality issues by ethnic minority status. Practically, the two unique features of the US welfare state result in models that are slightly different in specification. The US model will necessarily include a race covariate, which will be used as a control variable but will also be used explicitly to determine if there are any disparate impacts of benefit receipt by race.

Detailing the two policy contexts technically informs the upcoming empirical analysis by providing an introduction to the policies included in the measure of 'benefit receipt' and the sort of period effects that might influence outcomes. Notably, that young people in the BCS cohort will be able to access more assistance from the government than the NLSY cohort. This policy review serves a theoretical purpose as well by drawing out the variations in the expressions of a liberal market economy and liberal welfare state for these two countries. The analysis will focus in particular on the effects of the common practice of means-tested benefit provision on a young person's transition to adulthood in each of these contexts.

1.3 Tensions in the Welfare State

There are some distinct tensions in liberal welfare state principles and practices as they relate to young people; both systemic and individual tensions. The two systemic tensions are between the principles of libertarianism and paternalism (introduced most notably by Desmond King, 1999), and between individualism and familialism (discussed by both Esping-Andersen [1990, 1999] and Powell and Barrientos [2004]). A discussion of these tensions can be particularly informative before reviewing evidence on the youth period, as one could argue that the welfare state serves as the largest structural apparatus at work for

young people; who are both directly and indirectly impacted by its form and function (Settersten et al 2005). The tension at the individual level is found between the concepts of independence and dependence as defined by the welfare state, which warrants a separate discussion. These concepts defined by welfare state literature must also be analysed because they are present in the youth transitions literature with different normative definitions; it is the last individual tension that can serve as a way to conceptually connect these two strands of literature.

Libertarianism and Paternalism

A thread running through most of the principles and policies of the US and the UK, although not always stated explicitly (in the case of the UK) is the importance of individual freedom from the government (libertarianism). These freedoms are enshrined in the US Bill of Rights but are also implicitly conveyed through the generally low-touch functioning of the welfare state, with a 'tendency of the culture to associate liberty with limited government' (Radin & Boase 2000, p. 68). The liberal welfare state which focuses on the market and family rather than the government for one's welfare sends this message of 'freedom' from government (Powell and Barrientos 2004). This is one of the guiding principles of a liberal democracy (and liberalism generally) that both the US and UK ascribe to, where liberalism 'accords primacy to individual freedom in political arrangements' (King 1999, pg. 1) while also ensuring equality of treatment to citizens and due process under the law if citizens' social rights are delimited (Drake 2001; Marshall 1950). This idea of freedom is used as a guiding principle by policymakers in both countries (albeit perhaps to different extents) to reinforce the welfare and economic systems detailed above, with a clear focus on individualisation and lack of interference from the state as a preferred form of governance.

King and others would argue that these principles stand in direct conflict with the social policies that now are put into practice in liberal welfare states (1999). The principle of paternalism, at work for those deemed 'morally unacceptable' by the government (i.e. those not active in the labour market), result in welfare-involved citizens not afforded this freedom (King 1999). Workfare and other activation programmes receive the most criticism from scholars who point out this tension, as the freedom of those involved in government programmes is sacrificed because their problems are viewed as unable to be solved without the interference and goading of the government (Handler 2004; Prideaux 2001). The incentives and work requirements placed upon the poor in both countries are viewed as

removing the recipient's agency to the detriment of the values of liberalism (King 1999). For young people who are involved in the benefit system, including those in prescribed labour market programmes, is their freedom as a citizen in a liberal democracy then not ever realised?

Individualism and Familialism

The second systemic tension engages with the principle of individualism adhered to by liberal welfare states and the encouragement of young people to attach to the labour market successfully with little institutionalised support; and what happens when this attachment is unsuccessful. The concepts introduced by Esping-Andersen's (1999) and later Powell and Barrientos' (2004) work can be used to investigate the liberal welfare state's relationship with the family as a space that may come into conflict with the principle of individual independence. In practice, the inability for a young person to be 'de-familialized' with the help of government assistance is particularly low because of the residual character of liberal welfare states; and indeed, government policies assume that the family will be a larger source of welfare than the state (Antonucci et al 2014a; Powell & Barrientos 2004). A reliance on the family as a primary source of welfare for those in liberal welfare states is also included as a key characteristic in Powell and Barrientos' welfare mix framework (2004). The 'mix' of sources of welfare between the labour market, the family and the state is tipped in the direction of the labour market and family in a liberal welfare state, with the labour market as the first source of welfare followed by the family[11] (Powell and Barrientos 2004). The assumption of dependency on one's family of origin is a major issue of concern from the viewpoint of youth transitions research, where government policies limiting access to independent benefits and a challenging youth labour market can stifle the ability of a young person to become an individual actor in the economy.

The tension between the principle of individualism espoused by these welfare states and the practice of using the family as the first 'safety net' is perhaps most complicated for young people who struggle in the labour market. Young people are encouraged to become independent actors in the labour market as the best way to become an adult (e.g. 'the best way out of poverty is work' [Cameron 2013]) – but the process of attaching to the labour market may likely be prolonged and complicated. When this attempt at labour market

[11] This framework will be considered in more detail as it applies to young people in Chapter 2.3.

attachment fails, government policies for those under 25 are often not able to support low income young people as a benefit unit on their own, which may push them back to their family of origin (Antonucci et al 2014a; Danziger & Ratner 2010; Smeeding & Phillips 2002). Policies in the UK that might push young people back to (or keep them from leaving) their family of origin include those that set benefit amounts lower for the under 25s (in JSA in particular) and Working Tax Credit youth eligibility limits. In the US, there is almost no government assistance for those younger than 25 without children, and creates challenges for a young person to be entirely independent from their family of origin during this period. So although the welfare state encourages individualism in young people, the structural constraints of policies for disadvantaged young people (or the lack thereof) and the assumption of family support creates a tension in the practical reliance on the family welfare source.

Independence and Dependence

The final individual level tension of note is between the concepts of independence and dependence. Independence in liberal welfare states is implicitly defined by what it is not; dependence on government assistance. The discussion in Chapter 1.2 highlighted the policies put forth by governments in each country to limit this dependence (e.g. benefit eligibility limited to those over 25) and young people are therefore deterred in both explicit and implicit ways to not be dependent upon the welfare state. However, the stringent and residualist policies in a liberal welfare state to limit welfare dependence can lead to another type of dependence for young people; dependence on the family of origin. In the youth studies literature, however, independence is framed not in reference to the state but primarily as independence from one's family of origin (Lee & Mortimer 2009; Whittingdon & Peters 1996). Which conceptualisation of independence, then, is best applied in this case? Although social policies in liberal welfare states ascribe more importance to independence from the benefit system, this independence may have adverse effects on how a low-income young person may be financially independent of their family of origin when state resources are not available (Kendig et al 2014; Lee & Mortimer 2009); this research engages explicitly with these two conceptualisations of independence.

Perhaps of most importance for low income young people, independence from both the benefit system and the family of origin must come via the labour market, and at the young person's own risk. In some cases this is not possible, especially as the push-pull of welfare

state policies in both countries further complicate the ability of low income individuals to be entirely free of the state or the family in the youth period (Antonucci et al 2014a; Furstenberg 2010; Kendig et al 2014; Smeeding & Phillips 2002). Young people therefore bounce between reliance on both in their welfare mix when labour market participation is uneven and low. This experience has negative consequences for achievement of either conceptualisation of independence (Powell & Barrientos 2004; Smeeding & Phillips 2002). A discussion of the dual concept of independence and dependence in the youth transitions literature will illuminate areas of conceptual commonality in these two literature strands, which will enable the creation of a working definition of independence as the outcome this work investigates in the empirical work to follow.

Chapter 2: Youth Transitions and Empirical Evidence

The welfare state literature detailed in the previous chapter was done so to theoretically and practically ground the empirical work of this research in the welfare state field, which will subsequently ground the later comparative discussion of each country's results. The specific focus on the youth period, however, warrants an exploration of a second strand of research broadly termed youth transitions. As research on the youth period of the life course encompasses everything from partnering and childbearing to educational achievement to labour market attachment, it is important to properly orient this particular investigation among existing youth transitions research. The majority of literature that is conceptually applicable to the upcoming empirical work here is sociological, although research from both life course studies and developmental psychology also influences how the youth transition is conceptualised and explored. This chapter details the concepts and definitions that will inform the outcomes investigated here, what is known about the 'transition project' in each country and the inequalities that shape it, and details previous empirical research on welfare state impacts on individual outcomes. Together with Chapter 1, this chapter provides the foundation for this investigation found in the literature.

2.1 Concepts and Definitions

Work by life course researchers in the last thirty-five years shifted the paradigm from viewing the youth period as a short phase from childhood to adulthood to a life course stage in its own right, with specific experiences and attendant risks across many years (Elder 1998; Vickerstaff 2006). Much of the foundational work in life course literature focused on defining what it means to become an adult and how adulthood is achieved by different groups of young people in different generations and contexts (Buchmann 1989; Elder 1985; Hogan 1981; Rindfuss 1991). There were and are challenges and tensions present in the field about what defines adulthood, varying in particular based on the author of those definitions and the context in which the definitions of adulthood are created. It is valuable therefore to explore which definitions may serve this research best (and how state definitions may not be up to the theoretical task undertaken here), with an understanding that discussions of this issue in the field are ongoing, contested, and ultimately subjective.

Definitions of Adulthood

Many of the first studies of the youth period were done by life course and longitudinal researchers, who sought to measure how different groups of young people were achieving key 'markers' of adulthood using quantitative data. The work of these researchers in the 1980s and 1990s generally used five markers as measures of adulthood achievement: 1. Moving out of the parental home; 2. Enrolling in higher education; 3. Entering the labour market; 4. Getting married/beginning a long-term partnership and; 5. Becoming a parent (Buchmann 1989; Hogan 1981; Rindfuss 1991). These transition steps are referred to as 'social qualifiers' (Mary 2013), 'demographic transitions' (Benson & Furstenberg 2012) or 'markers of adulthood' (Shanahan 2000), and were canonised through research as the steps one needed to take to 'become' an adult[12]. In the 1980s and 1990s, work often compared the timing and sequencing of the achievement of these five markers for young people in the latter half of the 20th century to the timing of previous cohorts (Buchmann 1989; Goldscheider & Goldscheider 1989; Hogan 1981). For the immediate post-war cohort of young people in Western Europe and the United States (young people of the 1950s), researchers described their youth transition and achievement of these markers of adulthood as 'linear' and 'uniform' in their overall pattern (Furlong & Cartmel 1997) with fewer destinations and pathways than more recent cohorts (Vickerstaff 2006). And although it is argued that the transition experiences of earlier youth cohorts are no less *complex* than recent cohorts (Goodwin & O'Connor 2005), there is agreement that the range of options and outcomes available and accessed by young people today are more numerous and varied (Coles 1995; Elder 1998; Furlong & Cartmel 1997).

Early research using these five markers found the pattern of achievement to differ from the cohorts of the post-war period, and described youth transitions of cohorts from the late 1980s to the present as neither uniform nor linear. Rather, modern youth transitions are described as 'destandardized' (Elzinga & Liefbroer 2007; Walther 2006), 'nonnormative' (Shanahan 2000) and 'protracted' (Buchmann & Kriesi 2011; Corijn & Klijzing 2001; Furlong et al 2006, Gauthier et al 2007). Multiple transitions in school, work and family formation in the youth period are detailed accurately as 'a set of movements which are less predictable

[12] Further life course research on young people using these markers includes Corijn and Klijzing 2001, Elzinga and Liefbroer 2007, Buchmann and Kriesi 2011, Billari 2004, and Gauthier et al 2007 to name a small few.

and involve frequent breaks, backtracking and the blending of statuses' (Furlong et al 2003, pg. 24 in Roberts 2011). The results of this 'pathways' work led some researchers to question the appropriateness of using traditional markers of adulthood in future youth transitions research (Amato et al 2008; Andrew et al 2012; Benson & Furstenberg 2012; Schoon 2015; Schoon & Lyons-Amos 2016). The definition of youth transition 'success' for many young people themselves has also necessarily changed given the new risks and experiences of younger cohorts (Furlong & Cartmel 1997), and it is therefore important to detail how some researchers in the field are moving beyond traditional markers, and how tensions in these definitions inform this research.

The most radical departure from the use of the traditional markers of adulthood is in the work of American psychologist Jeffrey Arnett. Arnett's 1997 study was one of the first of its kind to ask young people what they believe constitutes an adult identity, and noted that young people in his study 'consistently ranked individual characteristics like responsibility and independence very high and role transitions (like getting married or having a full time job) consistently low' (Arnett 1997 in Benson & Furstenberg 2012, pg. 202). His subsequent research with young adults confirmed these ideas, and he went on to boldly claim that, 'most young Americans[13] regard specific events traditionally viewed as marking the transition to adulthood, such as finishing education, beginning full time work, and marriage as irrelevant to the attainment of adulthood status (Arnett 2000, pg. 63). From this research Arnett created a model of 'emerging adulthood' wherein he defined the demographically and subjectively distinct youth period with the defining feature of a prolonged adolescence from age 18 to 30. In theories of emerging adulthood, the process of becoming an adult is characterised by exploration of roles and identity (including exploration in the labour market), which may or may not directly prepare a young person for the 'roles' outlined by the traditional markers (Arnett 2000). The focus is rather on 'individualistic qualities of character' that define what it means to be an adult (Arnett 2000, pg. 271), such as accepting responsibility for one's self and making independent decisions (Arnett 1998, 2000). The importance of a young person's individual and agentic moves in this period is also a thread in some sociological work, where researchers argue that transition experiences are driven more by individual choice. The ways young people themselves navigate 'new social risks' (Beck 1992) results in an individual 'choice biography'

[13] Arnett's empirical work was done in the United States, but he believes his theory of emerging adulthood is applicable to youth in all industrialised countries (2000).

(duBois Reymond 1998) where adulthood roles are self-determined (Goodwin & O'Connor 2005; Lawy 2002). In the emerging adulthood model and to those who subscribe to it, adulthood is necessarily defined individually and intrinsically in these unique experiences. Definitions of adulthood in this view are thus highly subjective and individualised.

There are however major criticisms of the emerging adulthood model which question in particular its universality and the assumptions made about young people's ability to 'explore' in this period (Bynner 2005; Côté 2014; Côté & Bynner 2008; Kendig et al 2014). Much of Arnett's interview and focus group subjects were convenience samples of White, middle class young people (many of whom were at university during the research), who have the resources to undertake longer transitions by their own choice (Andrew et al 2012; Smith et al 2016). However, young people of colour and those from working-class backgrounds who do not attend university may need to step into adult roles out of necessity rather than choice – regardless of if they believe they are 'mature' enough to do so (Burton 2007; Furstenberg 2010; Kendig et al 2014; Smith et al 2016). Indeed, the phenomenon of 'early adultification' affirms that children and young adults from economically disadvantaged backgrounds and those from minority communities in the US often take care of younger children, contribute financially to the household, and manage the day to day operations of a household in greater proportion than higher income, White peers (Burton 2007; Kendig et al 2014; Nebbit & Lombe 2010). For the population of interest in this empirical work, low income young people who may be involved in the welfare state, the idea of a prolonged transition and identity exploration proposed by Arnett may not be practically possible. In general, critics of his model note overextension of the concept of 'emerging adulthood' to all social classes without proper evidence as the primary concern (Bynner 2005; Côté 2014; Côté & Bynner 2008). Further, the concept of emerging adulthood as a 'universal life stage' of Western youth may also be marginalising to those who cannot 'take advantage of the moratorium opportunities available, especially regarding participation in further and higher education' (Schoon & Schulenberg 2013, pg. 46).

Instead, traditional adulthood markers such as labour market attachment may serve as conduits for low income and low-skilled young people to achieve these subjective feelings of maturity and responsibility. For example, one's ability to *feel independent* (a subjective marker) is likely more reliant on his or her ability to enter the labour market (a role-based

marker) if they do not first leave their family of origin to attend university. The use of subjective and role-based markers together is perhaps a more relevant way to define achievement of adulthood identities in the context of this research, and previous sociological work tends toward this middle ground (Andrew et al 2012; Benson & Furstenberg 2012; MacDonald & Marsh 2005; Mary 2013; Scheer & Palkovitz 1994; Shanahan et al 2005). Adulthood therefore may be attained via subjective feelings of independence which are often based on role achievement in the labour market or leaving the parental home. Specifically, in further research 'financial independence' ranked prominently in young people feeling like adults regardless of income and education level, which some researchers identify as one of the more appropriate measures of adulthood for current youth cohorts (Andrew et al 2012; Benson & Furstenberg 2012; Kendig et al 2014; Settersten & Ray 2010; Shanahan et al 2005). Financial independence in youth transitions research has been defined by leaving the parental home and being 'self-sufficient' (Lee & Mortimer 2009) and serves as a mid-range concept between subjective and role-based definitions of adulthood and may serve this empirical work well.

Both types of adulthood definitions stand in stark contrast to how the state defines adulthood, where adulthood is defined neither by role transitions nor by subjective, developmental concepts. In part due to the practicalities of implementing policy, the state in its various institutions determines adulthood by particular ages when the social security system defines independence from the family benefit unit, and thus when 'adult' responsibilities are required of the young person (Harris 1989). However, in most cases, 'legal rights and responsibilities of adulthood are given gradually (and in seemingly inconsistent or arbitrary ways) so that there is no clear end to adolescence and beginning of adulthood' (Settersten et al 2005, p. 552). For example, the criminal age of responsibility in England and Wales is age 10 (UK Government 2018), the minimum age for enlisting in the armed forces in the UK is 16 (ForcesWatch 2011), and the age one is still classed as a dependent in the eyes of the UK benefit system is either age 18 or 20 depending on educational status (Department for Work and Pensions 2018); variation that occurs similarly (although with different ages) in the US. The age at which a citizen becomes an adult to the state, therefore, is dependent upon which institutional system the young person is interacting with.

Additionally, the use of age in itself to determine adulthood is problematic for researchers and for young people because one is deemed an 'adult' seemingly overnight, with the policies of the state effectively 'transform[ing] physical age into social age' (Mary 2013, p. 417). This transformation also assumes that the necessary competencies exist within a young person to properly navigate different state systems on their own, with potentially disastrous consequences for young people with additional support needs (Osgood et al 2010). Because of these negative consequences, youth sociologists and other researchers agree that adult identity is based on moving through particular transition steps and life course achievements often defined by the young person themselves, and age is an archaic way to define adulthood in the presence of transitions research evidence (Antonucci et al 2014b; Benson & Furstenberg 2012; Mary 2013; Settersten et al 2005; White & Wyn 2008). To the state, however, adulthood is something prescribed, and does not take into account neither individual agency nor developmental and role transitions.

Independence and Dependence

Engaging with debates on the definition of adulthood and youth transitions research naturally leads to a discussion of the core concept of this work, independence (both role-based and subjective feelings of independence) (Andrew et al 2012; Scheer & Palkovitz 1994; Settersten et al 2005; Settersten & Ray 2010). As noted above, these role-based feelings of independence, such as leaving the parental home and becoming self-sufficient apart from the family of origin, serve as conduits for subjective feelings of independence. The concept of independence in youth transitions, primarily financial independence, is therefore the most primary concept to explore, as its importance in defining adulthood 'has remained relatively consistent over time and across social class groups' (Kendig et al 2014, p. 271).

The conceptual challenges of defining 'independence' for this research was mentioned briefly at the end of the previous chapter, as independence in the welfare state literature refers to independence from the benefit system while in the youth transitions literature independence is from the family of origin (Coles 1995; Fraser & Gordon 1994; Furstenberg 2010; Goldscheider & Goldscheider 1999; Lee & Mortimer 2009; Schoeni & Ross 2005). A common thread of 'self-sufficiency' can be found in both of these conceptions of independence, where self-sufficiency is the ability to subsist away from the welfare state and/or your family of origin by participation in the labour market (Dworsky 2005; Gowdy &

Pearlmutter 1993; Hong et al 2009; Kendig et al 2014; Lee & Mortimer 2009; Settersten & Ray 2010; Smeeding & Phillips 2002). Financial independence in youth transitions literature, however, does not necessarily entirely align with conceptions of 'self-sufficiency' (Andrew et al 2012; Lee & Mortimer 2009; Whittingdon & Peters 1996). Rather, this concept may often just indicate that young people do not receive parental transfers to supplement or serve as their income, a definition that may overlook a discussion of self-sufficiency that one engages when defining independence in welfare state literature (Dworsky 2005; Gowdy & Pearlmutter 1993). Indeed, researchers find that low income young people generally are 'financially independent' from their families because they receive far fewer financial transfers from their parents, but this independence does not necessarily equate to economic success (Burton 2007; Furlong & Cartmel 2007; Kendig et al 2014). For those from low income backgrounds, then, financial independence as defined in the youth transitions field often results in continued poverty and would therefore not fulfil the aim of self-sufficiency that independence in the welfare state requires (Kendig et al 2014; Settersten & Ray 2010).

There is some ambivalence with how the welfare state engages with the concepts of independence and dependence as it is described in youth transitions literature, particularly in the benefit system. As detailed in Chapter 1.3, there are distinct tensions with how much a young person is expected to be implicitly dependent on their family of origin because of the eligibility criteria for individual benefits. Benefit policy is not equipped to define adulthood by roles as sociologists would prefer, but there can be more consideration to the labour market experiences and transition challenges that confront current cohorts of young people if a liberal welfare state wants to enable successful independence from the family of origin.

A proposed way to conceptualise the independence outcome of a young person's transition to adulthood within the institutional framework of a liberal welfare state is using the concept of economic independence. Although introduced in the early 1990s by Jones and Wallace (1992) as the 'key' transition outcome (Coles 1995), the concept was operationalised most usefully for this investigation in the work of Smeeding and Phillips (2002). They measured transitions to economic independence for young people through market work alone, through market work and government transfers, and from the combined effects of the market, state and family (Smeeding & Phillips 2002, p.106); other

welfare state researchers like Dworsky (2005) also have used this conception to measure individual self-sufficiency. By measuring economic independence in this way Smeeding and Phillips recognise that young people will likely have to rely on the welfare state and family resources at some point in their transition period, but also note that the concept can be narrowed in measurement to include just market work (2002). The proposal in this research is to use economic independence as the key outcome, defined as the ability to live above a poverty income and attach steadily to the labour market [14]. Labour market attachment can serve as a conduit for self-sufficiency and therefore the ability to use market work as the primary welfare source. Importantly, this conception does not exclude state assistance in a definition of economic independence, which is done so explicitly: low-income young people may indeed use state resources if they are unable to rely on parental transfers and in the absence of consistent gainful employment, and this investigation seeks to measure if and to what extent economic independence is affected by receiving government assistance.

2.2 The Transition Project and Inequalities in the US and UK

An investigation into the achievement of economic independence for the two youth cohorts here must be foregrounded by a review of what is known about the transition project. Previous work in this area informs not only the research design and analytical strategy, but it brings to the fore key theoretical issues about how best to view a youth transition for different subgroups of young people. In particular, previous work shapes what divergent outcomes are likely to be expected in the upcoming investigation due to structural inequalities of class, race, and gender, as well as from particularly 'risky' life course experiences in the youth period.

As detailed in Chapter 2.1, researchers generally point to the large-scale deindustrialisation of the Western world as the primary structural reason for the more 'disjointed' transition patterns of current youth cohorts, as this phenomenon ostensibly severed a direct link between school to work for a large proportion of young people who did not enter higher education (Antonucci et al 2014b; Billari 2004; Heinz 2003; Mortimer 2011; Scherer 2001). Concurrent developments in higher education, gender equality in the labour market, and greater individualisation and choice in transition destinations also changed the macroeconomic conditions of young people's life courses (Furlong et al 2006; Furlong &

[14] A full description of what measures are used to operationalise the concept of economic independence is found in Chapter 3 (Research Design and Methodology).

Cartmel 1997; Schoon 2015). Research into the causal mechanisms behind diverging youth transition patterns emerged partially in response to these changes, and in particular the school to work transition provided fertile ground for both small-scale and cross-national research of young people's various experiences and outcomes. But what is a youth transition, and what are the key drivers that can guide an analysis?

Settersten and colleagues' (2005) use of the 'transition project' concept provides a useful framework to analyse the experiences of young people, taking into account the multiple and concurrent transitions in this period. A 'transition project' in this view involves a young person's activities in three domains – education, employment and family formation – each with a set of choices and structural constraints that a young person must work within and through (Settersten et al 2005). This takes the analysis beyond the usual focus of only labour market attachment. The experiences of young people in these three domains are culturally and contextually structured by both the common characteristics of a liberal market economy and liberal welfare state and the different macroeconomic contexts in which the young people grow up in. As the economic contexts (as LMEs) and welfare state contexts at a high level (as liberal welfare states) are common among the two cases, transition experiences in the US and UK are considered broadly similar, but key differences in context outlined in the previous section (e.g. race) and period-specific effects will be highlighted in order to better analyse the upcoming empirical results.

Transitions in each of the three domains are considered by life course researchers as a site where young people's agency and the influence of structural factors collide, and therefore life course research explicitly embeds any discussion of transition experiences within socio-historical and cultural contexts while also determining how opportunity structures and inequalities interact with individual agency processes (Elder 1998; Schoon & Lyons-Amos 2016). Middle theories with concepts that link the structure/agency dichotomy such as 'bounded agency' (Evans 2002; Shanahan 2000) and 'structured individualisation' (Roberts 1995) can helpfully frame the way this work approaches youth transitions in these three areas (Antonucci et al 2014b; France 2008; Schoon 2015). These linking concepts are able to capture the experiences of low-income young people particularly well, as this particular group of young people are considered to be 'strategic in that they foster plans and pursue them, but they are also constrained by the limits that attend their position in the educational and occupational systems' (Vogel 2002, pg. 682). In each of the transition

domains the impact of gender, socioeconomic, and racial inequalities particularly structure experiences in this period (Furlong & Cartmel 1997). Thus the ability for a young person to make agentic moves in these domains is bounded by individual *and* macroeconomic characteristics, even as 'individuals are forced to play a much more active role in their biography' (Antonucci et al 2014b, p. 14). As the opportunity for individual agency has increased, so too has the responsibility of an individual to manage their transition experience and any potential 'risks' that are involved in it (Beck 1992; Chisholm & Hurrelman 1995; Furlong & Cartmel 1997). For example, the relatively unstructured experience of initial labour market attachment can be at once exhilarating and terrifying depending on the skills one has to succeed on their own, and thus management of risks and the inequalities in experiencing these risks in each of the three domains diverge based on a complex set of factors for different groups of young people. The next sections aim to illuminate the key components and issues in each of these domains to inform how to approach an empirical investigation into economic independence.

Education Domain

The education domain primarily involves transitions within the secondary to tertiary/higher education system and more broadly from school to work (Coles 1995; Jones & Wallace 1992). Activities and outcomes in this domain are structured primarily by the type of economy functioning in that state: a liberal market economy's reliance on general skills formation is necessary in order to complement the flexible labour market required, and the education system is organised to meet those ends (Estevez-Abe et al 2001; Hall & Soskice 2001; Iversen & Stephens 2008). As mentioned in Chapter 1, these general skills are developed in a secondary education system that rewards individuals who are academically adept, often failing to meet the career preparation needs of those who do not do well in traditional secondary education (Boliver 2011; Estevez-Abe et al 2001; Croxford & Raffe 2014). In particular, vocational education systems in the US and the UK are relatively under-developed for practical and political reasons (Winch 2012), and therefore there are 'relatively few opportunities' for young people to improve their labour market values outside the school system (Estevez-Abe et al 2001; Iversen & Stephens 2008). The focus in liberal market economies on this type of skills provision has therefore had distinct effects on the development of the tertiary/higher education sector as the primary site for skills formation for young people since World War II.

The expansion of higher education in both countries during the survey periods impact the transition choices in the education domain, and research into this expansion also outlines the types of economic returns young people experience from higher education. The expansion of higher education in the United States resulted in the percentage of all 18 to 24 year olds in degree-granting postsecondary institutions (both two-year and four-year institutions) increasing from around 25% in 1970 to around 40% in 2015 (NCES 2016). The higher education system in the US is characterised by diversification (Arum et al 2007) into top tier research universities and second-tier universities awarding four-year Bachelor's Degrees and above, community colleges (awarding two-year Associate of Arts, or AA, Degrees) and vocational education institutions. The decentralisation and deregulation of the higher education sector (Walters 2000) has resulted in around 7,200 degree granting institutions in the United States enrolling 20.4 million students in 2017 (McFarland et al 2017). For many young people and their families in the US today, 'the availability of schooling is taken for granted' (Walters 2000, p. 242 in Arum et al 2007), although the type of institution attended and the returns to education are still extremely structured by class and racial inequalities (Arum et al 2007; Cameron & Heckman 2001; Hardaway & McLoyd 2009). The community college system in particular is an area of research interest for those focussing on transition experiences of low income youth, as this group accesses higher education most commonly from these institutions (Berlin et al 2010). The attrition rate in these institutions is quite high, as only around 30% of young people who enter community college finish their two-year degree within six years (Karpilow & Reeves 2013). The negative outcomes resulting from this high attrition rate is therefore concentrated among poorer students and causes concern particularly because educational attainment, particularly post-secondary attainment, has been found to mediate the negative impacts of low socioeconomic status and adverse childhood experiences for minority youth[15] (Schoon 2008; Wickrama et al 2012).

[15] Although not covered in the upcoming empirical work done with this UK sample, ethnicity in the UK has also been identified as a source of variation in educational and later economic outcomes. However, the results of British ethnic minorities differs from experiences seen in the US sample. Ethnic minority groups in the UK have a greater proportion with higher education qualifications than their White peers, but still face worse labour market outcomes, both in attachment and returns (Zwysen & Longhi 2016). In particular, a pattern of overqualification for ethnic minorities has been found to be a particularly prominent feature of the more recent UK cohorts (Rafferty 2012), which can carry labour market penalties in underemployment (Lindley 2009). Importantly, research has not been able to completely explain the gaps in ethnic minority and White British labour market returns: Zwysen and Longhi (2016), using a homogenous group of higher education graduates in the same

Inequality in access to higher education in the United States is partially a function of class and racial differences in academic attainment in secondary school, influenced by inequalities in parental income, parental education and community factors (Bozick & DeLuca 2011; Cameron & Heckman 2001; Conger et al 2010; Leventhal & Brooks-Gunn 2000; Wickrama et al 2012). Higher education enrolment is also highly dependent upon the financial resources of families to pay high tuition fees or a student's willingness to take out student loans, with the high cost of higher education a deterrent for low-income students to attend four-year institutions (Arum et al 2007; Hardaway & McLoyd 2012; Schoeni & Ross 2005). Because of the wider array of post-secondary education options available, however, the majority of young people in the NLSY sample will have some experience in higher education, likely with higher labour market returns from this experience found for poor young people or racial minority cohort members. This reflects the idea that there is 'more to lose' for these structurally disadvantaged groups if they do not enter higher education, with education serving as a moderating factor on the influence of structural disadvantage (Schoon 2008; Wickrama et al 2012). For those from low income backgrounds who do enrol in some form of higher education, an emerging issue in the United States is also the increase in the number of students in higher education who are poor, food insecure and homeless (or have housing instability), as there is little income support for full or part-time students available from government assistance programmes (Goldrick-Rab et al 2018).

Higher education in the UK also expanded following World War II such that now around a third of 18 to 24 year olds are in full time education, equating to 1.87 million students[16] (ONS 2016). Two periods of expansion identified by Boliver (2011) are notable for this work: the development of polytechnic universities in the 1960s as characteristic of the new 'binary' education sector and later the upgrading of these institutions to 'New' universities in the 1992 Further and Higher Education Act. The upgrading of post-1992 institutions in particular signalled the beginning of the 'mass tertiary education' phase of expansion (Halsey 2000), which aimed to decrease educational and subsequently economic disparities between different socioeconomic groups of young people. Indeed, researchers confirm that

cohort, found that 'differences in parental background, local area characteristics and university career did not explain ethnic inequalities in employment (163). This suggests, although not explicitly stated, that there may be labour market discrimination issues at play for this group.

[16] This figure however does not include those who are in part time education.

there are substantial returns to higher education in the UK for those who attend and graduate (Walker & Zhu 2011) and expansion efforts ideally close these access, and in turn attainment, gaps. However, successful outcomes from and access to higher education are still differentiated by socioeconomic status, with young people from poorer families less likely to go into higher education at all, and if they do enter higher education they are more likely to be accepted into and attend less prestigious 'New' universities (Crawford et al 2016; Croxford & Raffe 2014). This divergence again has been identified as primarily a function of inequalities in educational attainment in secondary school combined with socioeconomic disadvantage (Crawford et al 2016; Howieson & Ianelli 2008; Murray et al 2012,); a pattern of educational achievement and higher education enrolment described as 'boringly class predictable, even after decades of reform' (Shildrick 2008).

The inability to continue on in higher education in both countries is therefore a particularly notable expression of structural disadvantage in this domain. A key difference between the cases investigated here is that there is a relatively high rate of 'early' school leavers at age 16 in the UK who do not continue in secondary school to 18 (the compulsory age in America) or go on to further education or training at any time in the youth period; still around 10.5% of 16 year olds left school at this earlier age in 2016 (European Commission 2016). Researchers unsurprisingly find that young people who leave school at 16 have more tumultuous transitions than those who do not, with a higher incidence of periods of disconnection from school and the labour market during the youth period and beyond (Furlong 2006; Howieson & Iannelli 2008). This is partially because the skills formation necessary for better socioeconomic attainment is not undertaken in a formalised setting as it is for those who continue to at least 18, putting this group of young people in both countries at higher risk of labour market failure (Benson et al 2007; Howieson & Iannelli 2008). In the United States, the risks associated with leaving education even at 18 are illustrated in the large difference in median wages between those who are able to attain a Bachelor's Degree and those who only have a high school diploma ($50,000 compared to $31,800 a year) (McFarland et al 2017) and in the higher proportion of non-college educated Americans in poverty (30.4% compared to 8.7% of all working age Americans) (Shapiro et al 2017). The higher poverty rate among non-college educated Americans also subsequently means that this group engages with the benefit system in a more notable way, particularly as the main beneficiaries of government assistance: 9 out of 10 adults who

are lifted out of poverty by government assistance are those lacking a college degree (Shapiro et al 2017, p. 1).

It is valuable to note, however, that vocational secondary education does indeed exist in both countries, and the evidence does show some positive employment results for those who choose this option (Shavit & Muller 2000). However, positive results from vocational education are premised primarily on whether the system is focused on highly specific occupational skills (Blossfeld 1992). In the United States, the system of vocational education that provides more general rather than specific skills does little to close the employment and income gap between those who undertake vocational rather than higher education (Simpson & Cieslik 2007; Shavit & Muller 2000). Notably, research has shown that those with vocational qualifications[17] rather than academic qualifications do no better in the labour market if these qualifications are at a low level, and therefore young people with low vocational qualifications are not particularly 'diverted' from low or unskilled work (Shavit & Muller 2000). However, it is valuable to mention that the population of young people who do not enter higher education is not homogenous as a low-attaining and poorer group. Bozick and DeLuca found in particular that nearly 20% of their US national sample who had the academic preparation and family income support to enter into higher education chose not to do so in order to enter the labour market (2011). Rather, 'the heterogeneous motives…suggest that postsecondary decisions are not always guided by academic and economic barriers' (Bozick & DeLuca 2011, p. 1249). Although in general previous work finds lower economic attainment for those who do not enter higher education, the choice to continue on in education may not always be the preferred or appropriate choice for all young people.

Taken together, changes in the education domain result in transition projects with more opportunities for choice due to expansion efforts in higher education, but are still structured by demographic and institutional characteristics that reward some more than others. It will be valuable then to investigate if and how educational qualifications affect particular demographic groups, and if education does indeed influence economic independence outcomes differently for particular demographic groups. Transitions within

[17] The National Vocational Qualification framework (NVQ) has undergone many changes in the United Kingdom, although there has been some form of qualification categorization that can map onto academic qualifications for empirical research. There is no such institutionalised vocational qualification system in the United States that is used in this way for typical quantitative research.

the education domain complement perhaps the most-researched employment domain of the transition project (or the school to work transition), and therefore experiences in education have a direct impact in experiences in this area.

Employment Domain

The experience of labour market attachment and employment for young people has changed dramatically since the 1970s, particularly as the 'certainties of industrialisation' eroded (Antonucci et al 2014b, p. 17) and structural unemployment became a permanent feature of the youth labour market (Bell & Blanchflower 2011; Gallie & Paugam 2004; Heinz 2003; Mortimer 2011; Scherer 2001). Deindustrialistion in particular had the most negative effects for those with low skill levels and low academic qualifications, as decently paid, permanent low skilled work all but disappeared from both the UK and the US labour market after the late 1970s (Heinz 2003). For young people who may first enter the labour market with low skills, this experience is often in the service industry which is generally poorly paid, flexible and inconsistent, and with less opportunity for advancement than in other careers (Auer & Cazes 2003; Fagan et al 2012; MacDonald 2011; MacDonald & Marsh 2005; Mortimer 2011; Standing 2011).

Although most young people do not spend their careers in the low wage service sector, it is an example of two key characteristics of the youth labour market; flexibility and precarity (Bell & Blanchflower 2011; Furlong & Cartmel 1997; MacDonald 2011; Mortimer 2011). Flexibility in this transition domain can be viewed positively, as flexible work provides young people the opportunity to explore career options as 'stepping stones' in their choice biography (du Bois Reymond 1998). Indeed, part time employment opportunities make it possible for many young people to successfully combine work and full time education, which is becoming a common experience for students[18]. However, the young people of interest in this research who may engage with government assistance experience labour market flexibility as primarily negative: zero hour contracts, non-union work, concentration in the lower earnings decile and in industries of high turnover in the US and the UK result in economic precarity (Bell & Blanchflower 2011; Furlong 2006; Furlong & Cartmel 1997; MacDonald 2011; Standing 2011). This group of young people may indeed spend the majority of the youth period as part of the new 'precariat' group of workers (Standing

[18] In 2012, OECD reported that around 47% of students in the UK work during their studies and around 57% of students in the US combine work and study.

2011), and churn between low paid work and government assistance (MacDonald 2011; MacDonald & Marsh 2005; Shildrick et al 2009). The structure of the youth labour market today therefore complicates the transition experiences of young people who wish to find full time work[19], a particularly challenging proposition for young people without the necessary skills and labour market experience to be successful. Whether viewing the youth labour market in terms of stepping stones or precarity, the common thread is that 'stable employment biographies' no longer exist (Roberts 2011), and that 'all young people will more likely experience unemployment or nonstandard forms of employment' at some point in the youth period (Fagan et al 2012 in Chevalier 2016).

As with all the transition domains, experiences in access and returns from employment can differ dramatically between young people based on socioeconomic status, gender, and race; all of which are likely be key drivers of outcomes in this investigation. Divergent experiences in the employment sector are particularly notable in the United States based on race, where discrimination in access to employment and remuneration remains a feature of labour market experiences for Black Americans that negatively affect their employment biographies (Fryer et al 2013; Hardaway & McLoyd 2009; Pager et al 2009; Sum et al 2014; Wilson 1996). For example, studies of Black adolescents by Entwisle and colleagues (2000) found that 'although Black adolescents were applying for more jobs than their White counterparts, they were less likely to obtain employment, even after controlling for socioeconomic status and academic achievement' (Entwistle 2000 in Hardaway & McLoyd 2009, p. 247). The experience of first attaching to the labour market for Black respondents may therefore be later in adolescence than White respondents, and may negatively affect their ability to obtain further steady work in later youth. And while some would argue that the 'race gap' in employment outcomes is merely a function of divergent levels of educational attainment (Roland 2011), further field experiments have provided evidence that subtler forms of discrimination are still a factor to consider in the employment experiences of Black and Hispanic Americans (Bertrand & Mullainathan 2003; Fryer et al 2013; Pager 2003; Pager et al 2009). In the low wage labour market, the experiences of these minority groups is particularly disadvantaged, where the issues of race

[19] It is important to recognise, however, that full time work may indeed not be the preferred outcome for some respondents in the samples here; particularly for women who choose to stay at home to care for children.

and class intersect. Perhaps one of the more notable field experiments in this area was conducted by Pager and colleagues (2009), where Black low-wage job applicants were found to be half as likely as equally qualified White applicants to receive a callback or job offer; indeed, Black and Hispanic applicants with no criminal record had the same level of success as White applicants with a criminal record (p. 790). Black young people in the United States in particular have to contend with the additive effects of discrimination in the employment sector on top of any other disadvantages that may influence their opportunities in the labour market.

Another intersectional issue in the employment domain in the United States is the intersection of race and gender, where researchers continue to find much lower wage and labour market attachment outcomes for Black and Hispanic men on average than White men and all women (Blundell 2008; Chetty et al 2018; Pager et al 2009; Wilson 1996). Work by economists confirm that the gap in overall employment rates between Black and White Americans is driven by the extremely large difference in outcomes between Black and White men (Chetty et al 2018), with Blundell finding that 'high educated Black men have employment rates comparable to high school dropout White men' (2008, p. 8). The gaps between Black and White male outcomes also holds with Black men from more affluent families, as Chetty reports that the employment rates of Black men from parents in the 75th income percentile are comparable to White men from parents in the 9th income percentile (2018, p. 32). An important strand of sociological work aims to untangle the causal effects of these divergent outcomes, and point to a confluence of neighbourhood effects and residential segregation (Drier et al 2001; Massey and Denton 1993; Wilson 1987 & 1996), the phenomenon of mass incarceration (Alexander 2010), and racial discrimination (Bertrand & Mullianathan 2003; Pager 2003; Pager et al 2009; Sum et al 2015) as some important factors that drive this gap. Therefore, although much of the work on government assistance recipients focuses on the minority female subgroup, it is important to bear in mind that perhaps the largest differences in economic independence outcomes occurs between Black and Hispanic men and their White peers. Both Blundell et al (2008) and the more recent work by Chetty (2018) using Census data finds no gap in labour market attachment and wages among Black and White women, where the only difference among women is rather in educational attainment. In fact, Black women have the highest labour force participation rates among females in the United States (at 62.2% in 2017)

(DuMonthier et al 2017) but this higher level of participation does not correspond to higher annual income.

In both cases the transition experiences in all three domains differ based on the gender of the respondent, and do so similarly when women are viewed as a demographic group. The effects of gender emerge most explicitly in the employment domain, as previous work suggests that the patterns of lower wages and lower work intensity for women remain a defining feature of the labour market, and will likely also hold in the two cases investigated here (for a review of the gender wage gap literature, see Altonji & Blank 1999 and Blau & Kahn 2017). From the 1970s to the 1990s the wage gaps between men and women in both countries reduced primarily due to the increase in higher education and years in the labour market for women (broadly termed human capital formation) (Altonji & Blank 1999; Goldin 2014; Livanos & Nuñez 2012). As females now outperform males in higher education achievement in both the US and the UK, 'the portion of differences in earnings by gender that was once due to differences in productive characteristics has largely been eliminated' (Goldin 2014, p. 116). While some economists have attempted to explain this gap as a result of different psychological or socio-cultural characteristics of men and women's approaches to the labour market, the explanatory power is generally found to be minimal (reviewed in Bertrand 2011). Rather, differences for women in the employment domain may best be considered as a more general 'child earnings penalty' (Waldfogel 1998), where women are more likely to have labour market breaks or combine work and family more deliberately than men in the transition period (Aassve et al 2007). These family formation choices and experiences led to lower labour market attachment and wages for women with children compared to both men and single women, particularly for lone mothers (Christopher et al 2002; DiPrete & McManus 2000; Goldin 2014; Katz & Goldin 2008). This phenomenon has been identified as the 'feminization of poverty' (Bane & Ellwood 1994; Christopher et al 2002), and therefore it is likely that changes in the family formation domain will play a much larger role in female labour market outcomes and subsequently there will be more interaction between females and the means-tested benefit system.

Despite theoretical discussions in the field about the shrinking influence of parental socioeconomic status in youth transitions literature in the UK (reviewed in Shildrick et al 2009), research with young people from poor socioeconomic backgrounds identifies particularly challenging labour market attachment for this group (Conger et al 2010; DiPrete

& Eirich 2006; Furlong 2006; Schoon 2014; Schoon & Lyons-Amos 2016). Young people from poorer households have more unstable employment or periods of unemployment, which result in long-term negative impacts on income and wages in the form of 'wage scars' that can last into a person's mid-life (Gregg & Tominey 2005). As much of government intervention for young people in these two cases is focused on either initial labour market attachment or intervention in the case of unemployment (Gallie & Paugam 2004), the group of young people from disadvantaged families engage more explicitly with government programmes. Indeed, the in-depth, multiyear qualitative project by MacDonald and Marsh detailed a portrait of low income 'disconnected youth' in Teesside who cycle between unemployment, low wage work and government training and assistance schemes (2005). Because of this higher level of involvement with and eligibility for government assistance, this investigation will necessarily focus on the same group of disadvantaged young people in each cohort.

However, a research focus on young people who are disconnected from education, training or the labour market can potentially mask a discussion of how parental socioeconomic status can also work to the *advantage* of young people. The group of young people who are neither disadvantaged nor extremely advantaged has been dubbed the 'missing middle' and has gained prominence in the research field as they constitute the majority of the youth population (Murray et al 2012; Roberts 2011). Investigations into how parental background influences transition outcomes should therefore consider both cumulative disadvantage *and* advantage as a 'mechanism for inequality' between groups of young people (DiPrete & Eirich 2006); expressly detailed in the next section.

Family Formation Domain

The final transition domain is that of family formation, wherein a young person moves from their family of origin to their family of destination (Settersten 2005). This domain is also comprised of multiple transition experiences, the patterns of which have also changed substantially in the last thirty years: the age at which one leaves the parental home, age at first marriage and the age when one becomes a parent have all increased since the 1970s (Corijn & Klijzing 2001; Elzinga & Liefbroer 2007; Furstenberg 2010; Goldschneider & Goldschneider 1999). Prolonged transitions in this area are the result of economic and cultural changes, including expansions in higher education and the labour market (leading to more time in post-secondary education and subsequent career development particularly

for women); higher housing costs; and the uneven economic returns from the youth labour market (Furstenberg 2010; Settersten & Ray 2010). Although, as mentioned previously, some of the traditional 'markers' of adulthood in this area are not considered to be necessary for a 'successful' transition to adulthood, this should not undermine experiences in this domain as important in this research. Divergent experiences in family formation, particularly residential independence and in young childbearing, indeed are both a function of inequalities by gender, race and parental background, but also may influence and exacerbate inequalities in economic independence in the long term (Amato et al 2008; Amato & Kane 2011; Osgood et al 2010).

The experience of residential independence in particular is comprised of 'normative expectations about when to leave home, stress factors motivating an exit, a general preference for autonomy… and intergenerational transfers' (Garasky et al 2001), and involves inputs and negotiation between the young person and their parents that may not be as present in the other domains (Aassve et al 2002; Ermisch 1999; Ermisch & DiSalvo 1997; Mulder 2013; Schoeni & Ross 2005, Swartz et al 2011; Whittingdon & Peters 1996). Both qualitative research with young people and quantitative research with cohort data confirms that economic factors such as housing costs and low incomes inhibit young people in establishing independent households (Ermisch 1999; Ermisch & DiSalvo 1997; Mulder 2013); indeed, young adult incomes and full time work remain the primary indicators of an exit into residential independence (Aassve et al 2002; Whittingdon & Peters 1996). Labour market failure has also been shown to push young people back to their family of origin if they have made an exit, a 'boomerang' experience that is becoming more common due to uneven success in the labour market during youth (Barrington et al 2014; Roberts et al 2016). Ermisch (1999) modelled mid-1990s housing transitions using British Household Panel Survey Data and found that a spell of unemployment during the year doubles the rate of return to the parental home, especially for those under 25. Moving back in with one's family of origin is an even more common experience for recent youth cohorts, particularly following the labour market shocks during and after the Great Recession (Dey & Pierret 2014; Kaplan 2012).

As a result of macroeconomic conditions and a welfare mix tipped towards family rather than state support, intergenerational family transfers (both cash and in-kind) are now viewed as far more important to a young person's transition in this domain than for

previous cohorts (Furstenberg 2010; Hogan et al 1993; Kaplan 2012; Kendig et al 2014; Lee & Mortimer 2009; McLanahan 2004; Schoeni & Ross 2005). The family can be considered as both a 'safety net' and a 'scaffold' during this period (Swartz et al 2011). As a 'safety net', parents serve to shelter their children from negative economic experiences with periods of longer co-residence, and their children's long term poverty outcomes reflect this sheltering: research from Aassve and colleagues find much higher poverty rates throughout early adulthood for early home leavers as opposed to those who are able to say with their family of origin (2006). As a scaffold, parents provide monetary resources for a young person to live independently when their income is not yet high enough for self-sufficiency (Aassve et al 2006; Ermisch 1999; Ermisch & DiSalvo 1997; Fingerman 2015; Schoeni & Ross 2005).

Young people from higher income backgrounds therefore are able to access more transfers for this scaffolding process than those from lower income backgrounds (DiPrete & Eirich 2006; Fingerman 2015; McLanahan 2004), and live independently at higher rates than their lower income peers (Dey & Pierret 2014). In their 2005 work, Schoeni and Ross reported that young adults in the top quartile of the income distribution received average transfers of roughly $71,000 between age 18 and 34 (in 2001 dollars), and those in the bottom quartile received an average of $23,414, which include in-kind transfers as well as cash transfers. And while higher income parents are able to give *more* to their children than lower income parents, the *share* of parental income going towards children is roughly the same between parental income groups (Furstenberg 2010), and highlights an ever-increasing share of young people who have 'semi-dependence' (Coles 1995) on their parents later into the youth period (Antonucci et al 2014b; Arundel & Ronald 2016). Indeed, Smeeding and Phillips find that the majority of young people in both the US and the UK cannot earn enough income to support a family of three with neither their own income nor their own income including government assistance until at least their mid-20s (2002), so reliance on family is a necessity for most (if it is possible). Although neither of the datasets nor the analysis here includes parental financial transfers in detail (and it is not the primary focus of this study), it will still be useful to investigate the type of respondents who receive parental support in the form of co-residence, and if indeed the experience is universal or confined to particular groups of young people.

A particularly prominent 'risk factor' identified in previous research in the family formation domain is young parenting, an experience that has long been identified as correlated with

higher rates of poverty among teen parents and with long-term negative economic and educational outcomes (Basch 2011; Moore at al 1993; Wickrama et al 2012). Basch's systematic review on these impacts in the United States reported teen mothers' education to be approximately two years shorter than women who delayed parenting until age 30, with teen mothers 10-12% less likely to complete high school (2011). Research in the 1990s identified not only the impacts of early childbearing on poverty outcomes but also sought to identify causal factors in early childbearing, and identified links between lower socioeconomic status measured by a variety of indicators (e.g. low educational achievement, high unemployment/underemployment, neighbourhood disadvantage) and younger childbearing (Basch 2011; Bonell 2004; Moore et al 1993; Penman-Aguilar et al 2013). Early childbearing in the United States is thus also racially stratified, with a higher proportion of minority youth experiencing this particular risk factor as a result of higher proportions of the group from lower socioeconomic backgrounds (Basch 2011).

There is a small group of researchers in the youth transitions field who do not view young parenting as an altogether 'risky' or negative experience in and of itself, and young parenthood is rather the manifestation of social disadvantage (Duncan 2007; SmithBattle 2000). SmithBattle's work in particular changed the way those in the field of public health thought about this phenomenon, as her work with teenage mothers from lower socioeconomic backgrounds found that mothers viewed the experience as having a stabilising influence on their youth period and as positively transforming (1995, 2000). Indeed, further qualitative research found that for young people from poorer backgrounds, becoming a parent 'gives entry into a valued social role' that can be a way to 'forge an adult identity' where success in the labour market is elusive (Graham & McDermott 2005 in Duncan 2007, p.318). For young women in particular, researchers note that this identity making experience can increase further educational aspirations, and serve as a positive 'turning point' in a youth transition (Carlson 2016; Edin & Kafelas 2011; Smith-Battle 2000). However, regardless of aspirations, the majority of young mothers and fathers in previous qualitative and quantitative research were found to be far less successful in achieving educational or labour market success compared to their non-parenting peers (SmithBattle 2000 in Carlson 2016). Additionally, any scarring that arises from the *timing* of becoming a parent is combined with the 'child earning penalty' (Waldfogel 1998) found to affect women's economic outcomes more than men's at any age; it is likely then that young

female parents will have particularly worse economic independence outcomes in this investigation.

From reviewing each of the transition domains it becomes clear that experiences are shaped by demographic factors out of the control of the young person, as inequalities by gender, race and socioeconomic status influence the opportunity structure of each young person in different ways. The accumulation of multiple disadvantages is particularly relevant to consider in the analysis of results (DiPrete & Eirich 2006); therefore, this research acknowledges intersectionality as a lived reality for these sample members, particularly for respondents who may sit within two subordinated groups in the welfare state and labour market (Crenshaw 1991). Operationally speaking in quantitative work, researchers can consider the inclusion of interaction effects to try and capture these multiple dimensions, which is done here. Intersectionality can also be another conceptual guide when reading the results of this work, bringing to light how the welfare state shapes the ways that particular groups of recipients in poverty access programmes and if particular groups (e.g. young Black mothers) may be served or not served by government assistance. These multiple identities and attendant inequalities shape both transition experiences and subsequent economic independence and are likely the largest factors in a young person's experience. However, this work must also turn to how the other major structural factor, the state, is theorised in youth transitions work.

2.3 The Welfare State and Youth Transitions: Frameworks and Applicable Concepts

The previous chapter's work on welfare state functioning in the US and the UK set the context for the upcoming empirical research; introducing how government actors speak (or do not speak) about young people as a group deserving of assistance and the best way for a welfare state to intervene, and the key tension that exists between state concepts of independence and dependence. The use of economic independence as the key outcome for this work was introduced as a way to resolve tensions between the two strands of work, but it is not yet clear just how to approach the analysis of the role of the welfare state in a youth transition. The welfare state has been described as 'the only overarching agency' that has direct influence over the life course (Settersten et al 2005), and as research on youth transitions increased so too did the need for frameworks to understand the influence of the

welfare state in these transitions. Some of these frameworks and their key concepts are reviewed to identify which might be most appropriate to both guide the empirical analysis and in discussions of the subsequent results.

The starting point for frameworks that theorise the youth welfare state is Esping-Andersen's welfare regime typology, which categorised the institutional settings which impact the degree of commodification or familialization that a welfare state imparts on its citizens (1990, 1999). The previous section's review detailed the way the organisation of a liberal welfare state impacts principles and programmes of the social security system, suggesting that the high commodification and low de-familialization for young workers in particular shape the opportunities young people have to become independent. The principles outlined in the liberal welfare regime also fit rightly with the assumption about how young people should act in a liberal market economy – together beginning to provide a picture of the expectations a state holds for its young adult citizens. Walther's research on regimes of youth transitions (2006) was one of the first to systematically extend welfare regime typologies and varieties of capitalism concepts to this subpopulation rather than only applying pieces of Esping-Andersen's theory to a particular phenomenon or policy problem of the youth phase. Walther asserted that in order to fully understand welfare regimes as they relate to young people one must also include the education and training system and how the welfare state structures the labour market opportunities of women (particularly for countries with highly stratified/structured vocational education systems) (2006). With this focus Walther extended the aspects of Esping-Andersen's work regarding commodification most explicitly.

Perhaps the most theoretically notable aspect of Walther's work is the discussion of the ways in which 'institutions and concepts merge into what is conceived as "normal" in a given context' (2006, p. 124). This outlined what a 'normal' youth transition looks like in each youth transition regime (organised by Esping-Andersen's welfare regimes) and therefore when and how a state should intervene when the transition is 'abnormal'. The idea of a 'climate of normality' (Walther 2006, p. 135) is present in nearly all youth transitions research, especially work that distinguishes a 'normal' or 'linear' transition from one that is 'prolonged' or 'disjointed'. The value judgements underlying descriptions of transitions in this way speak to the engrained normative assumptions about a youth transition in the Western world, with the pattern of 'school to work to family formation' as

standard, even with variations on how long each of these transition experiences last in different contexts (Furlong et al 2006; Furlong & Cartmel 1997; Settersten & Ray 2010). In liberal welfare states of the US and UK, early economic independence is identified by Walther as the key 'climate of normality', which aligns with both Esping-Andersen's work on commodification and Hall and Soskice's work on the values of a liberal market economy that extend to young workers. Therefore, the choice of Walther to focus on unemployment as a key site of transition 'abnormality' is unsurprising. Walther focuses on how states conceptualise youth unemployment and disadvantage, and therefore what school to work transition policies a welfare state implements. In the liberal transition regime of the UK (and by extension the US), youth unemployment is viewed via the culture of dependency (echoing language of conservative policymakers) and disadvantage is individualised, resulting in transition policies that seek to attach young people to the labour market as fast as possible (e.g. Youth Transition Schemes, New Deal for Young People) (Walther 2006). The regime subsequently has less focus on skill formation, and vocational education is not viewed as an institution to invest in heavily.

Chevalier's recent work (2016) critiques Walther's regime typology and revises it, with the primary complaint that not only is the regime type unidirectional (and therefore the dimensions are correlated with one another), the framework does not include the second pivotal concept in Esping-Andersen's regime types work – that of familialization. This concept has been discussed in previous youth transitions research (Jones & Wallace 1992) although not within a framework as Chevalier does; in all cases however, familialization is the degree to which youth is considered as 'an extension of childhood' and therefore when the legal requirement for the family of origin to provide financially for the young person ends (Chevalier 2016, p. 6). In welfare states with low familialization and therefore high individualisation, young people are viewed as independent benefit units in the social security system earlier in the youth period (often 18), and therefore the family of origin is not obligated to care for them or support them financially after that time. High familialization occurs in countries where legal responsibilities for the parents extend often to age 25 (Chevalier 2016). The concepts of familialization and individualisation comprise the social citizenship dimension of Chevalier's framework and details the legal relationship between the young person and their family of origin. The second dimension, economic citizenship, details how the state seeks to integrate young people into the labour market. This necessarily then details the academic and vocational education systems and how a

state addresses adverse experiences such as unemployment for young people. Together, the two dimensions create a framework that is meant to characterise both welfare policies (e.g. when the state defines independence from the family of origin) and school to work policies (e.g. how the state approaches labour market attachment).

The economic citizenship dimension of Chevalier's framework, which details school to work policies, has perhaps the most in common with Walther's framework. Both describe an education system in liberal regimes that provides less structured support into employment, with demand side policies focused on entrance into employment regardless of employment quality, and state intervention saved primarily for the highest skilled of those who do not follow an academic route in school (Chevalier 2016, p. 7). A selective strategy for workforce development (e.g. few places in high quality apprenticeships) leaves a distinct subgroup of young people in each country with neither academic qualifications nor specific skills to be integrated into the labour market as successfully as their peers. On the social citizenship dimension, the focus in liberal welfare states on early economic independence (as first detailed by Walther 2006) results in the age of independence in social security programmes relatively young, at 18 or 20 (varying based on the institution of focus, see Chapter 2.1) (Harris 1989). In Chevalier's framework this relatively early age of independence as defined by the state indicates low familialization in liberal welfare states (and other Beveridgean states), contrasted with countries like France and Germany (Bismarckian states) where the age at which young people are independent benefit units is much older (2016, p. 8).

The challenge in viewing the youth transitions/welfare state relationship with this framework is two-fold: first, the framework does not detail the way in which the state impacts transitions in the family formation domain and second, does not fully account for the ways in which a young person in a liberal welfare state may *in practice* still remain dependent on the family of origin (first identified in Chapter 2.1). The two frameworks detailed above only focus on the school to work transition perhaps because this is both the area of greatest direct government investment in this period but also because it is generally viewed as the most 'important' transition. However, youth sociologists and life course researchers contend that because issues of residential independence, partnering, and childbearing in the youth period have long-term consequences for the individual and the economy (Furstenberg 2010; Kendig et al 2014; Settersten et al 2005; Settersten & Ray

2010; Smeeding & Phillips 2002), transition experiences in this area should not be ignored as drivers of outcomes. This work must therefore widen its scope to think about how the state implicitly structures these choices and experiences as well, and in particular how support for residential independence from parents may alter long term economic outcomes.

Second, it can be argued on practical grounds that welfare states like the US and the UK do little to decrease familialization in the youth period, as they provide far less support for young people under 25 to become economically and residentially independent even if they are an 'adult' in the eyes of the welfare state (Harris 1989; Macdonald & Marsh 2005; Settersten et al 2005; Swartz et al 2011). Youth researchers rightly identify the 'dependency assumption' of the welfare state in both cases, which assumes that young people will be able to receive the support of their family until 25 and is the reason for lower benefit levels and ineligibility for some programmes for young people (Harris 1989, Jones & Bell 2000). The prominence of intergenerational transfers during this period regardless of the income level of the parents contradicts the idea that young people are indeed 'independent' of other sources of support besides the labour market (Ermisch 1999; Kendig et al 2014; Lee & Mortimer 2009; McLanahan 2004; Swartz et al 2011). This oversight in Chevalier's framework again highlights the tension between competing concepts of independence in the welfare state and independence according to youth transitions researchers.

Finally, while the frameworks above usefully categorise *what* each of the welfare states do in transition domains, they do not detail *why* the welfare states cluster in these ways and *how* this interacts with a young person's life course. To investigate the latter two issues Antonucci and colleagues (2014a) propose another way to think about young people and the welfare state, by applying Powell and Barrientos' 'welfare mix' framework (2004) to youth transitions. In this application, the investigation focuses on 'how the different combinations of welfare sources in each country leads to different levels of decommodification and defamilialization in young people's lives' (Antonucci et al 2014a, p. 25). A welfare mix lens can enable an investigation into how a young person does rely, or is able to rely, on the state, labour market or family as a source of their welfare in each of the three transition domains; an approach taken by Smeeding & Phillips in their 2002 work but not connected to a specific framework. Using the welfare mix framework experiences in all three of the transition domains can be investigated rather than just the employment

domain, and the analysis can also crucially include the relationship between a young person and their family of origin in a discussion of empirical results.

A welfare mix framework also makes clear 'the role of the state in setting normative standards in young people's engagement with all three sources of welfare' (Antonucci et al 2014a, p. 26). By investigating how each of the three welfare sources are expected to be used by young people, the normative standards in the transition experience can be uncovered. This echoes and extends Walther's ideas about the centrality of 'climates of normality' (2006) in transition regimes. Youth sociologists working in the US and the UK note that the characteristics of the liberal welfare state result in a young person's welfare mix tipped decidedly in the direction of the market and their family of origin, a consequence of a welfare state that targets benefits to the few as a 'safety net' institution of last resort. This also affirms the notion of the family as a primary source of support (Antonucci et al 2014b; Settersten et al 2005). The complex and challenging transition in the employment domain in particular has been shown to influence a young person's reliance on their family of origin (Ermisch 1997; Whittingdon & Peters 1999; Smeeding & Phillips 2002; Swartz et al 2011), even though the expectation of young people by the state is for economic independence early in the youth period (Chevalier 2016). The expectations of a welfare state on young people's early labour market attachment and the ability of young people to rely on their family of origin results in diverse economic experiences for young people depending on their status in many socioeconomic and demographic contexts. Those with challenges in both the labour market and the family welfare sources will therefore likely interact with the welfare state in order to achieve economic independence and are the primary subgroup of interest in this empirical work. Recognising the importance of all three welfare sources and their interconnectedness in the youth period, this work will use the welfare mix as an analytical framework to discuss each case's results and organise the case comparison (Chapter 6).

2.4 Poverty Reduction, Welfare Recipients, and Individual Impacts of Government Assistance

The purpose of this final section is to add empirical evidence on means-tested benefits from a national and individual level to the theoretical discussion of liberal welfare states' principles and its tensions in Chapter 1. This will more adequately orient the upcoming investigation's results on the variable of interest – government assistance -- in this field of

existing work. This section will also detail what is known about the dynamics of poverty as well as welfare receipt, which will likely also be applicable to respondents in these cases. The section concludes with what might be missing from existing welfare state research from the viewpoint of youth transitions researchers, and outlines how this investigation can bridge the two fields for this population of interest.

The Welfare State as a Poverty Reduction Tool

A strand of welfare state research that supplements the work of Esping-Andersen's focus on the institutional/organisational structures of welfare state regimes are those which seek to measure the poverty reduction effects of a welfare state. This work, led by researchers like Kenworthy (1999, 2012), Brady (2005), Korpi (1980, 1983), and Korpi and Palme (1998), took the principle of poverty reduction as the 'central aim of social welfare policies' (Kenworthy 1999, p. 1129) and then sought to understand how varying welfare states achieved that aim. This work was therefore necessarily comparative, and used national welfare state measures such as the percentage of GDP spent on social expenditures to describe the generosity of welfare states and their effectiveness in improving outcomes for the poorest in society. This strand of research generally concluded that nations with lower social expenditures have lower poverty reduction, and nations which spend more on both social spending and public health have higher poverty reduction (Brady 2005; Korpi & Palme 1998; Smeeding et al 1993): however, 'even in the least redistributive nations like the US…[social expenditures] have a beneficial impact' on poverty reduction (Kenworthy 1999, p. 1124). The results of these studies placed primacy on the welfare state as a poverty reduction tool and therefore is oriented firmly against the liberal economic idea that economic growth, increases in productivity, and reducing overall unemployment will have the largest impacts on poverty reduction (Brady 2005).

This conclusion is affirmed when considering the experience of those in poverty in the US, where low levels of unemployment and economic growth particularly in the late 1990s and early 2000s paired with the low redistribution and high levels of targeting did not also improve the experiences of those in poverty. Smeeding and colleagues (2006) make this point particularly salient in comparing the experience of the US and the UK in the late 1990s in the area of child poverty, where Prime Minister Blair's expansion of assistance for parents both in work and out of work reduced overall child poverty in the UK while government assistance in the US was not reformed to increase the wages of parents. Thus

during that same period child poverty in the US remained (and remains) persistently high. The reliance on the market alone for low-wage workers, Smeeding contends (2006), will simply not be enough to lift people out of poverty and the system of supports in the United States at current levels (and trends in this direction in the UK) is also not sufficient enough to make up for low levels of pay: therefore the government should play an active role in income support (2006).

The challenge for proponents of expanding government assistance, however, is to make the case in a liberal welfare state that government assistance is indeed an effective tool against poverty reduction. Power-resources theories (Korpi & Palme 1998) suggest that institutions with high instances of targeting of government assistance (like liberal welfare states) may not be suited to strong levels of public support for redistributive policies, particularly because a smaller group of citizens are seen to be benefitting from government assistance who can then be vilified as 'lazy' or 'shiftless'. This is indeed the case in the US and the UK, and is illustrated by the perennial discussions about the deserving and undeserving poor. Korpi and Palme (1998, 2004) along with Nelson (2004) also suggest that the poorest segments in society are best helped in welfare states where systems of support are not exclusively directed towards that group (i.e. universalism); a 'paradox of redistribution hypothesis' that seems to run counter to the current functioning of liberal welfare states that target benefits. However, critics of Korpi and Palme's hypothesis have emerged with more recent cross-national data, suggesting that universalism in social spending does not necessarily lead to more redistribution and that targeted government assistance can still reduce poverty effectively (Kenworthy 2012; Marx et al 2013).

Indeed, there is evidence that means-tested benefits do lift some families above the poverty line and close the poverty gap in both the US and the UK despite their institutional arrangements. Econometric evidence in the US on poverty reduction is a particularly large field of research, concluding that the Earned Income Tax Credit (EITC) and SNAP have the largest anti-poverty effects of the means-tested programmes available (while Social Security is the most effective government programme overall, although it is not means-tested) (Blank 2002; Meyer 2010; Meyer & Wu 2018; Sherman et al 2013). An important distinction made in previous research is that means-tested transfers such as SNAP have a larger effect on moving people out of deep poverty (below 50% of the poverty line) than on reducing the traditional poverty rate (Fox et al 2015; Tiehen et al 2015). This closing of the

poverty gap for the very poor indicates that recipients of this programme are rarely lifted above the poverty line but the gap between their income and the poverty line has reduced (Ravallion 1996). EITC, however, moves more recipients over the poverty line each year, with studies showing that EITC reduced the poverty rate by around 10% (with 2007 data) (Meyer 2010); around double that of SNAP, SSI or housing subsidies (Fox 2017). This, Meyer and Wu note, is not surprising given the recipient type, as those who receive EITC 'tend to be closer to – and therefore more likely to be moved across – the poverty line' (2018, p. 9). In the UK, the poverty reduction effects of both tax and transfer programmes are particularly notable, where the most recent OECD data showed reduction in the relative poverty rate by over half for jobless households, and over 65% for standard workers (2015). The UK is also particularly effective in targeting government assistance to those at the lowest income groups, and Sefton's work (2002) indicates that the lowest income groups in Britain benefit from redistributive policies the most. However, redistribution in both the UK and the US have slowed in current years with the move towards even greater targeting of out of work benefits and focus on in-work benefits, which will not be able to effectively reach families and citizens with no income or unstable work histories (Causa & Hermansen 2018)

It is also valuable to understand the type of citizens who are poor, and therefore who will engage with government assistance each year and in the survey periods of this investigation. The pioneering work by Bane and Ellwood (1986) on poverty dynamics changed the way policymakers thought about the population of citizens in poverty at any one time. Their primary conclusion was that of the people who become poor in a year, only a small fraction will become chronically or continuously poor in the long term. Rather, poverty for many is a brief experience, and their work found that over 70% of those who enter poverty in a year will have that poverty spell end in 3 years or less (1986, p. 11). However, the chronically poor make up the larger share of people in poverty at any one point in time, such that those who are currently in poverty are more likely in a spell of ten years or more (1986, p. 12). Importantly, this research also introduced the idea of 'cycling' in and out of poverty, where a group of people at or near the poverty line make multiple entries and exits to poverty status during their lifetime. This same type of dynamic is found in the UK with work by Burgess and Proper (2002) and Jenkins (2011). The dynamics of poverty therefore also results in 'welfare dynamics' with relatively the same features (Bane and Ellwood 1994; Hills 2014). In short:

> Most recipients stay on welfare only a short time. Most of the dollars go to people who stay a long time. Some people go off quickly, some people go on and off repeatedly, some stay almost continuously (Bane and Ellwood 1994, p. 42).

And while US welfare reform effectively limited the possibility of the chronically poor from receiving cash assistance continuously in TANF (partially as a result of Bane and Ellwood's research findings), the population of those in receipt of benefits in both countries will still be broadly similar. This work may therefore expect to find very few respondents who receive benefits in many consecutive years, but who may be at or near poverty long term as they cycle in and out of benefit eligibility. Together with the evidence on poverty rate and poverty gap reduction, it is likely that receipt of government assistance in a means-tested system will likely reduce poverty gaps among target groups who are poor, but will likely not be able to alter recipients' long-term outcomes substantially in comparison to their non-poor peers.

After reviewing the overall poverty reduction effects of tax and transfer systems and a brief review of the dynamics of sample members who access government assistance, it is necessary to review evidence on the effects of government assistance on individual outcomes relevant to the upcoming empirical work. This is not meant to be a meta-analysis of all the evidence on means-tested transfers that exist[20], but rather brings forth notable results and trends that may likely also arise in this investigation. Importantly, evidence on the effect of means-tested transfers for the specific youth population is scant because young people are considered firstly as either parents in the empirical research or they are viewed alongside the general population of benefit recipients and are not investigated as a specific subgroup. In the upcoming evidence presented then (save for evidence on the Youth Training Scheme), it is challenging if not impossible to determine impacts on *young people* who receive these benefits, as they are not the population of research interest. Rather, empirical research and policy evaluations of the welfare state and young people as it relates to their transition outcomes generally is found in the education and skills formation policy area (France 2008). However, the findings from previous research on means-tested transfers can still provide a valuable basis for interpreting and reading the results of this work, as the receipt of government assistance is measured both in the youth

[20] For the most current review of the effects of all means-tested transfers in the United States, see Moffitt 2016.

period and in subsequent survey years in the upcoming investigation. And although the majority of the work reviewed here is from econometric models aimed at causal inference which is not undertaken here (discussed in more detail in Chapter 3), this empirical evidence is still appropriate to orient the findings of this research in the literature on the impacts of government assistance on similar outcomes of interest. The following section details existing evidence on the Youth Transition Scheme and then evidence on means-tested benefits in each case.

Government Assistance and Individual Outcomes: evidence from the UK

The Youth Training Scheme

As noted in Chapter 1, the Youth Training Schemes were introduced by the Thatcher government in an attempt to address supply-side issues of youth unemployment, particularly that young people were not equipped with the skills to succeed in the labour market (Bynner 2012). The earliest studies on the short-run wage impacts of YTS participation generally found that participation in the programme led to lower wages for participants: a particularly startling result from Dolton, Makepeace and Treble (1994) reported that typical young men whose only training was on YTS would have earned between 4% and 17% *more* if they had had no training whatsoever (in Dolton et al 2004). The labour market attachment results are slightly more positive, indicating that YTS participants are somewhat more likely to be in employment following participation (Main & Shelley 1990; O'Higgins 1994). Work by Upward (2002) indicated that the extent of a young person's participation in a scheme made a difference to wage and employment outcomes, where those who completed the full 2 years of the programme showed a higher likelihood of staying on with the training firm or getting employment afterwards. Longer run results in Dolton et al (2001) found that there were no significant effects on the probability of unemployment for those who participated; the neutral results identified by the authors is evidence merely that the differences between those who participated in YTS and individuals in a comparable group without training can be accounted for by other demographic factors. Considered in a positive light, 'their [YTS participants'] lot is not systematically worse than that of their colleagues with similar backgrounds who have had no training' (Dolton et al 2001, p. 9).

Perhaps the most relevant evidence on YTS participation comes from Dolton and colleague's work in 2004 with around 2000 'low achievers' in the 1970 British Cohort Study.

Although this is not the exact subsample of BCS respondents used in this investigation, the outcome measured at age 30 provided results a decade after participation in the programme and showed that the wage and labour market impacts of YTS participation were 'large and negative for men and small and insignificant for women' (Dolton et al 2004, p. 9). Male ex-YTS participants had mean earnings around 8 percent lower than non-YTS participants and their employment rate was around 8 and a half percentage points lower (ibid). Together with previous research, the work concluded that this type of long-term government investment does not significantly improve the lives of participants (Dolton et al 2004). Given these results, it is likely that the longer-run empirical work here will also find either neutral or negative impacts for YTS participants after controlling for socioeconomic and educational factors.

UK Benefit Programme Outcomes

The reform of Income Support for the unemployed to Jobseeker's Allowance in 1996 (save for lone parents) signalled a change in policy tone for those who are unemployed to 'an *allowance* for those who are looking for work instead of an *income* for those who are unemployed' as a right (Manning 2009, p. 239, emphasis added). As the first large scale application of workfare principles into the UK benefit system (Lowe 2005), changes in the stricter enforcement of eligibility conditions (most notably job search requirements) allowed researchers to investigate the experiences of claimants before and after reforms using techniques such as difference-in-difference models. The introduction of JSA resulted in a large decline in claimant counts very shortly after implementation (Rayner et al. 2000) which could give the impression that these changes resulted in more respondents in employment. However, Manning's work on outflows of claimants and their destinations from 1996 to 1998 report that JSA increased the exit rates from the claimant count to non-employed status (around 6.7 percentage points higher than before JSA was introduced) rather than into employment (2009, p. 244). Results from Petrongolo's difference-in-difference models (2007) using longitudinal social security data was able to extend this work to show that the introduction of JSA increased the probability of being in non-employment by 4.3% the following year, and also increased the incidence of Incapacity Benefit for claimants as a result (p. 19); a result that was later also confirmed by Riley and colleagues' 2011 report to the DWP.

For those who did not move onto another type of benefit and rather into some form of employment, the change to JSA was also found to have both unemployment and wage scarring effects, and the experience receiving JSA (or 'JSA shock') was noted to have particularly long-lasting effects for the 16-24-year-old group studied by Petrongolo (2009). For the whole group of claimants (aged 16-64), after a spell of JSA receipt there is a 'reduction of 4% in the probability of positive earnings the year after the shock' that gets reabsorbed after 3 years. For those aged 16-24 the negative effects of a JSA spell actually *increase* slightly 2 to 4 years after JSA receipt, from around 4% to around 6% reduction in the probability of positive earnings (Petrongolo 2007, p. 18). One of the proposed reasons for these longer-lasting effects was that young people who were able to quickly re-engage with the labour market did so, while those who were less able only found work much later, causing the dip in results 2-4 years after leaving JSA. Indeed, this analysis helped to buttress Manning's work on the impact of job search requirements on employment after JSA, which found 'no evidence that moves into employment or measures of search activity were increased by JSA' (2009, p. 247) and rather the new requirements in place did no better at reengaging the unemployed then the previous benefit system. For those who did exit JSA into employment, one of the more troubling aspects of empirical work reports that JSA 'leavers' may not necessarily be better off, as Wright (2012) reports that nearly a third of exits do not also result in exits from poverty.

The effects of welfare programmes on lone parents is another area of interest for this work because this target group of claimants is more likely to be in receipt of benefits but also were, along with other families with children, the focus of many of the reforms of New Labour in an attempt to assist low income families with children. In-work tax credits are considered one of the more successful interventions for the lone parent population in incentivising labour market participation (Blundell et al 2006). Evaluations of the Working Families Tax Credit by multiple researchers reported 'unambiguously positive' results for lone parents' labour market participation (Gregg et al 2009), and found that generally there was a 4 to 5 percent increase in the lone parent employment rate over 5 years (Blundell et al 2008; Brewer et al 2006; Francesconi & ver der Klaauw 2007; Leigh 2007). The results from Gregg and colleagues (2009) also showed that the working hours of lone mothers who used to work slightly less than 16 hours also increased on average, such that the average hours worked per week of lone mothers became relatively similar to the average number of hours for mothers in couples (p. F63). The results suggest that the positive results in the

employment rate are likely due to employment retention for those who become lone parents and those who are already lone parents from leaving work, and to a much lesser extent getting lone parents into employment from non-employment (Gregg et al 2009, p. F49).

This review of the most notable empirical work in the UK case showed divergent results for recipients depending on the type of benefit accessed. Jobseeker's Allowance was found to be a primarily negative experience for wages and slightly increases the probability for further unemployment spells, while tax credits tend to have more positive results, particularly for lone parents. For the BCS cohort members, then, it may be challenging to disentangle the positive effects of benefits like the Working Tax Credit from the negative effects of benefits like Jobseeker's Allowance. Importantly these results and other research indicate that there is an interplay between different types of out-of-work and in-work benefits at particular times in the life course for those with low-incomes; it is likely that in the course of the BCS survey period some respondents will move on and off many different types of both active and inactive benefits as they struggle to gain income above eligibility thresholds as evidenced by poverty dynamics literature (Hills 2014). However, periods of extremely low income that cause means-tested benefit receipt may indeed serve as shocks to labour market and wage trajectories that can be felt long term.

Government Assistance and Individual Outcomes: evidence from the US

The econometric research on US mainstream programmes is a dense field of research, particularly research on AFDC/TANF, and therefore it is most valuable to focus on research that is most relevant to the outcomes of wages, labour market participation and household poverty (the measures of economic independence of this investigation). The AFDC/TANF and SNAP programme evidence is considered in the most detail here, as they are included in the empirical work as separate programmes of interest.

AFDC/TANF

Along with the political shift towards welfare state contraction in the 1980s noted in Chapter 1, increased AFDC caseloads in the 1970s and research on AFDC and state waiver programmes by economists in the 1980s and early 1990s set the stage for TANF reform. Previous AFDC studies showed that AFDC reduced labour supply in estimates ranging at minimum by 10% and at most by 50% (Moffitt 2003, p. 317); a result that reformers hoped

to reverse with the introduction of work requirements and tighter eligibility in TANF. New TANF programme rules would theoretically reactivate former AFDC recipients in the labour market and reduce dependency; a hypothesis investigated in a smaller group of 'leavers' studies. These studies indicate that TANF leavers are more engaged in the labour market, but are not entering work that will make them enough money to be lifted out of poverty. Summarised by Ziliak, all of the smaller leavers studies together indicate that 'the earnings gains among the low skilled a decade after the implementation of TANF have been more than offset by losses in transfer income' (Ziliak 2016, p. 366). A recent study of the Kansas TANF programme by Mitchell and colleagues (2018) provides a particularly salient example of the income and labour market attachment of TANF leavers in a 'harsh' programme one to four years after leaving. While 8 in 10 leavers worked at some point in the period leaving TANF, their work was unsteady and was not able to lift their family above the poverty line; confirming that this population has notable challenges in engaging in steady work. The wage results are perhaps more stark, when 'the year after leaving TANF, nearly two-thirds of parents had either no earnings or earnings below half the poverty line' (Mitchell et al 2018, p. 2 emphasis added), with nearly the same share in deep poverty four years after exit. Those who had to leave due to time limits have the worst outcomes overall, with median annual earnings in the fourth year after exit $1,370 – less than 7 percent of the Federal Poverty Line (Mitchell et al 2018, p. 15).

It is important also to consider, as mentioned previously, that TANF eligibility criteria resulted in the programme serving fewer poor families, with a particularly notable increase in the number of AFDC/TANF leavers who are neither connected to work nor government assistance who are more likely to be living on $2 a day or less (the extremely poor) (Edin & Shaefer 2016). A drop in the TANF caseload was initially seen as a positive result of the policy, but shortly after the TANF reforms took effect, Blank and Kovak (2009) reported an increase in around one-third of the proportion of TANF-eligible single mothers that were disconnected from both work and welfare from 2000 to 2005. This is also notable particularly because of the strong labour market in that period. Today TANF simply does not reach many poor families, which will likely be reflected in this investigation as well: in 2016, just 23 out of 100 poor families received cash assistance at any point in the year (Floyd et al 2017). Together with previous evidence on TANF leavers, TANF recipients in this investigation are expected to have particularly poor outcomes (compared to non-TANF survey members) in terms of labour market attachment, wages and household income,

particularly because after leaving benefits they are unlikely to improve their economic outcomes.

Supplemental Nutrition Assistance Programme (SNAP)

SNAP's place in the American welfare state became more prominent following the welfare reforms of the mid-1990s and now is the third largest welfare state programme after Social Security and the Earned Income Tax Credit (Currie 2003). Most of the empirical work on SNAP investigates child and maternal health outcomes and food insecurity, as these are some of key outcomes for food policy specialists. The results on food insecurity are as expected, with the increase in benefit amount leading to a larger reduction in food insecurity for households overall (Rose et al 1998) and for adolescents in participating families (Bhattacharya & Currie 2000). There are far fewer studies done on the economic benefits of the programme, particularly as it is challenging to untangle the effects of in-kind benefits on food supply and labour market outcomes. However, there are a few results particularly on household consumption and labour market attachment that can inform the work here. In both qualitative and quantitative work, the reliability of SNAP benefits has been shown to be a protective factor against family income shocks, with Gundersen and Ziliak (2003) reporting that SNAP reduced income volatility by 12% and food consumption volatility by 14%. These quantitative results confirm the qualitative work by Edin and Shaefer (2016) with extremely poor families who report that SNAP is in many instances the only consistent source of income every month. Paired with the poverty gap reduction results detailed for those in deep poverty, this work may potentially find this type of 'protective' effect for particularly disadvantaged sample members.

The labour supply effects of SNAP have only been studied experimentally or quasi-experimentally a few times, reviewed by Hoynes and Schanzenbach (2016): East's (2015) study on immigrant family outcomes showed that married and single women's employment declined (i.e. they left the labour market) while male employment rates did not decline though hours of work did when SNAP was received. Declines in the intensity of work for SNAP recipients (female headed households in particular) were also found by Hoynes and Schanzenbach (2012) when looking at data from the state by state rollout data of SNAP 1961 to 1975 – however, given the lower work intensity of women in the labour market at that time and the higher likelihood of those households also receiving AFDC, these results may be less relevant. As with work on the effects of any welfare state programme, the

composition effects for participants must be kept in mind when analysing any results, as movements into and out of SNAP receipt are highly correlated with labour market outcomes.

The reviews of means-tested programmes indicate particularly challenging long-term outcomes for those who receive government assistance, with results from JSA and TANF indicating negative results on future wages and future labour supply. However, there are some types of benefits included in the upcoming analysis that may show either positive or neutral results, particularly given the positive labour market attachment brought about by tax credit programmes in the UK and the potential protective factors of SNAP for family income volatility. In both cases it is also important to consider that those who currently receive cash assistance in one programme are eligible for or receiving other benefits, so it is likely that a patchwork of assistance is present in the lives of recipients. Where possible, then, the upcoming work will investigate if recipients who access multiple programmes are substantially different than those who access just one programme. When viewing the upcoming figures on benefit receipt in these two cases it is also important to consider that the proportion of citizens who receive assistance does not capture all those who are living in poverty and who are eligible because of lack of takeup; either due to explicit divergence from administrators, implicit divergence due to conditionality, or higher barriers to entry (reviewed in Chapter 1.2).

And finally, the compositional characteristics of the population of citizens who receive means-tested benefits make it challenging to uncover precisely the direction of causation in the relationship between the receipt of government assistance and these economic outcomes, particularly in a longitudinal model that does not seek to use econometric methods that delineate 'treatment' and 'control' groups. Many of the reasons for receiving government assistance are due to challenging experiences in the labour market and low incomes, experiences that are unlikely to change dramatically even over the course of one's lifespan (Erikson & Goldthorpe 1992; Goldthorpe 1980; Hardaway & McLoyd 2009). It is likely that this investigation may find lower labour market attachment for recipients in most cases and perhaps also lower wages, as structural disadvantages are compounded by further scarring from a period of very low income that makes one eligible to receive government assistance. The issue of causality and the nature of causal claims that can be made from this research are returned to in Chapter 3.

2.5 Orienting this Research

One of the challenges in finding empirical evidence that speaks directly to the issue of means-tested benefits and young people's independence outcomes is partially due to the siloed nature of theoretical and quantitative empirical research in these two fields. The most robust findings on the individual impacts of the welfare state on labour market outcomes are found in economics; however, the theoretical concerns and transition processes valuable to youth researchers are not a primary consideration in that work. Rather, some of the key drivers that youth transitions and life course researchers are interested in explicitly exploring – issues of structural disadvantage and certain 'trigger' events – are used as control variables or used merely to separate out subgroups of sample respondents in econometric work. On the other hand, much of youth transitions research into the primary drivers of economic outcomes (detailed in Chapter 2.2) does not explicitly consider how the experience of receiving government assistance can influence outcomes. Rather, experiences of benefit receipt may be considered as part of a larger effect of poverty generally, or experiences with the benefit system may be considered as part of a broader qualitative illustration of how young people in poverty navigate the transition period.

This work seeks to bridge the two fields by explicitly applying the considerations of a life course framework – that transitional experiences must be considered in reference to both the structural issues and the agentic choices of the individual – to an investigation of how means-tested government assistance impacts the youth transition outcome of economic independence. In particular, the theoretical underpinning of the investigation is found in an exploration of the youth transition project, and the drivers identified in that literature are applied to a quantitative model of economic independence. This work also uses the theoretical framework of the welfare mix to guide the analysis and comparison of welfare states. Ideally then the work will be able to speak to two literatures: one which details how government assistance in a liberal welfare state impacts recipients in the long term (both for young people and for particular subpopulations of benefit recipients), and the other is interested in the state's role in a youth transition. The next chapter details how this research is designed to achieve these aims.

Chapter 3: Research Design and Methodology

This chapter outlines the design of this research project, both as a quantitative longitudinal investigation of two cohort datasets and a comparative analysis of the case results. The uniqueness of this comparative approach warrants a discussion of its merits in the first instance, providing a theoretical basis for why these two cases should be compared. The research aims and question are detailed along with a discussion of the use of quantitative longitudinal models as most appropriate to answer the question and the nature of causality. The datasets that were chosen for use in each case are detailed followed by a technical discussion of the models that will be estimated. Finally, the post-estimation comparison is positioned within the larger context of comparative research.

3.1 Rationale for Comparison

The two datasets and subsequent models produced to measure the outcome of economic independence for the two youth cohorts here are detailed fully in Chapters 3.3 to 3.5. As will be detailed there are two separate samples and sets of empirical results that will be produced to answer the research question of interest, and therefore the two empirical analyses could stand on their own as single cases. This then begs the question of why compare at all. In this comparison the interest is in the 'contextual uniqueness' of each case that may impact the outcomes for the two countries investigated here (Skocpol & Somers 1980). In this investigation the uniqueness of the cases is at the programmatic rather than the systemic level, and the common characteristics that attend a liberal market economy and the principles of a liberal welfare state serve as the 'systematic controls' of the research design (Skocpol & Somers 1980, p. 179). With these common among the cases, the work can then comment on the divergence of policies in practice and in outcomes that may emerge from these differences. This 'contrast of contexts' design (Skocpol & Somers 1980) in the post-estimation comparison seeks broadly to determine the extent to which the expression of common concepts like 'economic independence', practiced in common macro-level environments, are affected by the country and cohort context in which these samples are located.

The case comparison in this work engages with the contrasts of contexts using the analytical framework of the welfare mix (Powell & Barrientos 2004). The work compares the cases in each of the three welfare sources– the welfare state, the family, and the labour

market –to determine where the common principles of the two cases function similarly (despite the differences in period and programmatic contexts) and where divergent results may be caused by differences contexts. A comparative discussion of the welfare state source (the primary focus of this research) will detail whether the different functioning of the benefit systems in practice paired with the variations in time period impact target populations differently. In this type of comparison, then, the goal is to show how 'the unique features [of each case] affect the working-out of putatively general social processes' (Skocpol & Somers 1980, p.178) – in this case, the transition to economic independence.

Therefore, rather than to disregard the 'context-boundedness' (Hantrais 2009) of each of the model results in an attempt to make general theoretical statements, this approach aims to use the specific contexts of the cases as the focal point. The value added of the comparison, then, is to determine whether the same *types* of policies, operating on the same *types* of principles, do indeed have similar long term outcomes for young people in different country contexts. This comparison will therefore be a separate analytical step in this investigation in post-estimation, a slightly different approach than comparativists who utilise large cross-national datasets to directly compare within empirical models. The value of analysing the separate results in comparison, then, is to determine the degree to which context matters in the youth transition experience of those who interact with the benefit system and those who are structurally disadvantaged, particularly among countries that are often grouped together in most welfare state research.

3.2 Research Aims, Question and Longitudinal Design

The aims of the research then are two-fold, as the research design can be considered a two stage process. The first is to determine the long-term impact of government assistance on economic independence for the two country cohorts, and the second is to comparatively discuss the achievement of economic independence in these two contexts and how the welfare state impacts this process.

To achieve these aims, the research will be guided by one question:

What is the impact of receiving government transfers in youth (age 16-24) on a low-income young person's ability to become economically independent – live above a poverty income and attach steadily to the labour market – by their mid-30s/early 40s in the United States and the United Kingdom?

The long time horizon of this question necessarily leads a researcher to a longitudinal research design, a common tool for life course, econometric and other social science researchers. Selecting the appropriate design from the variety of longitudinal methods available requires consideration not only of the data available in each country context but importantly what the research requires.

The primary value of a quantitative longitudinal study in social science is 'its effectiveness for studying change' (Diggle et al 2013, p. 16); in this case, studying the changes to a young person's life course given a variety of individual factors, youth transition experiences and government interventions. There are various forms of quantitative longitudinal designs, all of which measure change and development over time, analyse durations in certain states, and/or identify the direction and magnitude of causal relationships (Menard 2002). The ability to make more robust statistical inferences about respondents using multiple datapoints is a key advantage of using longitudinal rather than cross-sectional data (Lewis-Beck et al 2004; Menard 2002), overcoming the selection bias problem with data from only one time point (Guo 2009, p. 9) and controlling for residual heterogeneity, where the outcomes of the individual sample member are affected by unmeasured (or unmeasurable) variables (Menard 2002).

In order to make these inferences about a particular group of respondents over a long period a longitudinal panel design was chosen, which interviews the same group of sample members at prescribed or available intervals in an ongoing survey period[21]. This type of design allows measurement of 'intraindividual developmental trends' for each individual (Lewis-Beck et al 2004); or more simply, the impact of time on the sample. This design can also help to disentangle 'three types of effects: age, period and cohort' among a group of respondents with repeated measures (Guo 2009, p. 9). In this study, age is the primary measure of time because it reflects changes in an outcome due to a developmental process that occurs regardless of the time period the survey is taken, something youth transitions researchers are most interested in. For example, questions about how wages may or may

[21] There are three other types of longitudinal designs that were considered for this research but were not chosen because they did not provide long-term information on one sample of respondents to answer the research question. Total population designs and repeated cross-sectional designs were not chosen because they are best suited to measure population-level estimates and trends, and a revolving panel design (such as the British Youth Cohort Survey) was not chosen because the same group of respondents are only followed for a few years and therefore long-term trends are unable to be identified for the same group.

not rise as a function of a respondent's age is an effect that is one of the first to be measured in this research. This research also considers period and cohort effects in the post-estimation analysis when discussing the two case results to investigate whether the date of the youth period of each survey sample impacts variation among the two cases (period effects), and/or whether there are generational effects in the expression of both the outcome and the covariates of interest (cohort effects) (Holford 2005 in Guo 2009).

Apart from distinguishing variation among subjects, a longitudinal panel design also provides information across a number of years for an individual to determine how much variation in outcomes are due to variations within an individual life course. In this case, the area of interest is how the presence of government intervention in a young person's life course is a factor in the trajectory of their achievement of economic independence, as well as how this trajectory differs from other sample members; therefore, the same cohort of individuals should be investigated. This type of design takes advantage of multiple years' worth of data on a factor (e.g. household size) that is hypothesised to be influential to the outcome (e.g. the trend in a respondent's monthly wages) for the same individual in order to make inferences about these trends.

The Nature of Causality and Causal Claims

Before this chapter details the technical aspects of model design, it is valuable to explain the ways in which this investigation is able to engage with causal claims from the upcoming regression models; broadly, the ability of this approach to infer causality. This work must therefore be situated within either associational or causal inference approaches. Many authors, particularly within econometrics, have written extensively on the ways that associational analysis, typified 'by concepts such as regression, dependence, likelihood, odds ratios… and "controlling for"', differ from causal analysis, which is typified 'by concepts such as randomization, effect, confounding…and attribution' (Pearl 2009, p. 99). Holland's seminal work in this field notes that associational inference makes statistical inferences about the parameters relating to an outcome (Y) and factors (X) on the basis of data gathered about the outcome and factors; factors that be internal or external to the individual under investigation but which can be observed (1986). Causal inference, on the other hand, analyses the effects of causes using counterfactual analysis at its core. That is, analysing two causes for every effect (for a treatment and a control/comparison group) to properly estimate what might happen to the treated group in the absence of the treatment

(the counterfactual) (Abadie & Cattaneo 2018; Holland 1986). This counterfactual, of course, cannot logically ever be observed (what Holland deems the 'Fundamental Problem of Causal Inference'), but it can be 'created' for the purpose of analysis by using a control/comparison group using either randomization or creation of a control group with a variety of methods like propensity score matching (Abadie & Cattaneo 2018; Holland 1986; Pearl 2009). Most statistical analyses in the social sciences are associational, as they are often interested in the relationship between factors that are likely unable to be changed by either the unit being investigated (e.g. race, parental background) or cannot potentially be applied as a *treatment* to all of the units of analysis (e.g. specific levels of work intensity). In Rubin's Model of Causal Inference (explicated by Holland 1986) this last point is critical, because in causal inference 'each unit [must] be potentially exposable to any one of the causes' (Holland, 1986, p. 946), and that the key factor being investigated is viewed as a 'treatment'.

It is in this specification of a treatment, and the requirement for a treatment/intervention to be explicitly defined, where the research question being addressed in this investigation does not fit well into models of causal inference. While the key independent variable of interest, the receipt of government assistance, can indeed be considered a 'treatment' it is the intention of this work to also consider how other aspects of a young person's biography may also impact variation in the outcomes of interest. This takes the investigation beyond the narrowly defined econometric, hypothesis-driven models on the effects of government programmes (such as those reviewed in Chapter 2) to consider factors and processes that are of interest to sociological researchers. The factors included in the upcoming models which are theorised to impact the expression of economic independence (detailed in Chapter 3.4) may be both internal to the unit being investigated, like gender, and external, like receipt of government assistance; internal factors that cannot be causes in the specification of Rubin's Model of Causal Inference. Second, the investigation here does not seek to understand the effect of a treatment/cause using the framework of counterfactual analysis. This is because in many ways the investigation is exploratory and descriptive at its core, as a way to investigate how a youth transitions lens can be brought to bear on an investigation into the welfare state. Thus neither is a single intervention isolated for investigation of causal effects nor is a comparison or control group used in the upcoming models as would be done in causal analysis.

Therefore the type of inferences that can be made from the models of this investigation are associational rather than causal. The model results will detail associations and factors that may *impact* the expression of the outcome variables, but will not be able to identify the *causal effect*[22] as defined in experimental/causal analyses. Where the terms 'effects' are used in the upcoming chapters they refer only to 'effect sizes' (i.e covariate effect sizes).

With the theoretical underpinning established, this work can now move to the technical aspects of the research design. The next sections detail the datasets that are used in this empirical research, including the sample constructed for this empirical work, missing data issues, and how the three main outcomes in the upcoming models are specified within each of the datasets chosen.

3.3 Empirical data used in this investigation

Rationale for dataset selection

In order to adequately address the research question using a longitudinal panel design, the datasets selected had to at minimum fulfil three criteria: first, the dataset had to follow one cohort of respondents and cover the youth period to mid-life; second, the dataset had to include information on receipt of government transfers along with information in the three youth transition domains noted in the literature; and third, the youth period of the cohort would ideally be situated during or after the most recent welfare state restructuring efforts in the US and UK from the 1980s through the mid-1990s. As will be detailed in the following sections, the time points of each cohort's youth period differ slightly due to data availability, but cover particularly significant welfare reform periods resulting from Conservative welfare principles in action (detailed in Chapter 1). Fulfilment of the third criterion enables the research to speak more directly to current debates on the impact of the welfare state on economic independence, as the welfare states accessed by cohort members in both cases are as similar as possible to the current system while also including data on outcomes in mid-life.

[22] In Rubin's Model this is the difference in the averages in the outcome of interest between the treated and control groups over individual units (Holland, 1986). According to Pearl (2009) causal effects must be determined by the presence of a counterfactual: 'behind any causal conclusion there must be some causal assumption, untested in observational studies' (p. 100).

If all three of these criteria were fulfilled the waves in each survey were synthesised to determine if enough cases were present for a robust longitudinal analysis to occur. In the UK case, the British Household Panel Survey was originally considered for use whereby a synthetic 'youth' cohort would be created from the household panel following the methodology of Gayle and colleagues (2009); this was proposed primarily because the survey period of the youth cohorts in both cases would be as similar as possible. Unfortunately, once this cohort was synthesised there were less than 300 observations in the sample, a number that would likely be reduced once cases were removed during model integration due to missing data. Therefore, the most appropriate cohort dataset fulfilling these criteria for the British case was the 1970 British Cohort Study and the dataset fulfilling these criteria for the American case was the National Longitudinal Survey of Youth 1997, which are detailed in turn.

The 1970 British Cohort Study (BCS)

The 1970 British Cohort Study (BCS) captures medical and social data all of the residents of Great Britain who were born from 5-11 April 1970 and is currently administered by the Centre for Longitudinal Studies at University College London. There have been 8 sweeps of cohort data since the original survey at birth that are publicly available at the UK Data Archive: at ages 5, 10, 16, 26, 30, 34, 38 and 42. The first wave of data was collected for the 17,198 residents born in that week using a questionnaire completed by the mother, administered by the midwife present at the birth (CLS 2017). Because the organisers of this study sought to capture all respondents living in Britain born in the same week in 1970, efforts were taken during waves 2 through 4 to contact eligible children who were living in Britain but who had not previously been surveyed. Thus, more cases were added at each wave up to age 16, increasing the total number of respondents to 19,101 for the life of the survey. In the same vein as the previous birth cohort study in Britain, the 1958 National Child Development Study, the aim of the BCS was primarily to trace health and education outcomes for the child sample members (Pearson 2017). However, as the respondents aged the topics of the survey necessarily broadened to include employment, income and family formation topics in addition to health information.

A subsample of the British Cohort Survey has additional properties that this empirical study can utilise to effectively answer this research question. The Twenty One Year Sample Survey was given to 10% of the total sample (n = 1645) and sought to detail education,

income, and employment outcomes in early adulthood. Notably, the age 21 sample survey provides the most detailed information on respondents in the youth period after age 16 and is the only survey that is squarely in the age range of interest of this research due to funding constraints for UK cohort surveys in the 1990s[23]. This survey notably included questions on employment status, usual working hours, detailed information on labour income, any government assistance received in the year, and government training participation. Finally, the survey also gathered housing and mobility information, including whether the respondent was currently living with their parents, or when they moved out of their parent's house if applicable.

As the age 21 sweep is the only one conducted in the youth period that captures benefit receipt for cohort members considered as their own benefit units, this investigation focused on the BCS members that participated in this subsample. The age 21 sample was synthesised with subsequent survey waves (at age 26, 30, 34, 38 and 42) for each respondent to create a person-wave dataset: however, as noted in the Data Limitations section, the age 26 and the age 38 survey were dropped for missingness of the key independent variable. One covariate from the 1986 survey, parental income quintile, was added to the synthesised dataset as a time-invariant measure of socio-economic background. In order for a case to be considered for use in this research, respondents had to be present in the age 42 survey[24] and one other survey to ensure at least one year of further early-adulthood information is present in each of the models. These requirements resulted in 1,131 cases in the research sample, with survey waves for each individual case ranging between three and six (panel missingness detailed in next section). This unbalanced panel is taken into consideration when choosing a modelling method.

National Longitudinal Survey of Youth 1997 (NLSY)

The National Longitudinal Survey of Youth 1997 is a nationally representative sample of a cohort of Americans born between 1980 and 1984 'designed to document the transition from school to work and into adulthood' (BLS 2006). The first survey was administered to sample members in 1997 when respondents were between 12 and 17 years old, who were

[23] Further detail on the challenges of keeping the BCS 1970 funded and how this affected the survey waves available for research can be found in Helen Pearson's book *The Life Project* (2017).
[24] Respondents had to be present in the age 42 survey because one of the outcomes, gross household income, is a time-invariant measure only captured at that time period.

interviewed for 16 waves annually to 2011, and biennially from 2011 onwards. At of the beginning of this empirical work the latest survey available for use was the 2013 wave[25]. Unlike the BCS, this dataset includes respondents from a five-year age range and therefore there are 'younger' cohort members and 'older' cohort members in each survey wave. This element of the NLSY sample was investigated in descriptive figures with the outcome variables to determine whether there is sufficient variation to warrant inclusion of a covariate indicating year of birth: however, variation between 'older' and 'younger' sample members in the outcome measures was not deemed sufficient, so this dataset is treated as a single cohort (see Appendix A for descriptive figures detailing this issue).

The NLSY 1997 and its predecessor the NLSY 1979 are funded and administered by the Bureau of Labor Statistics (BLS) in the U.S. Department of Labor, and data is accessed through the BLS web system the *NLS Investigator*. As a project of the Department of Labor, much of the survey questions necessarily focus on labour market attachment and employment experience among cohort members. However, the survey also contains information on the education, training, major health issues and government programme participation of cohort members in each of the annual survey waves. The initial 1997 wave also included a parent/guardian survey with detailed information on parental income, education and programme participation. Together the survey provides a robust picture of the economic life of the respondent from adolescence to mid-life, and notably includes detailed (sometimes monthly) government transfer information to be used as covariates of interest in this research.

The first survey wave (1997) included 8,984 respondents consisting of a representative sample and a supplemental sample. The 6,478 cross-sectional sample was designed to be representative of people living in the United States in 1997 born between 1980 and 1984, and a supplemental sample of 2,236 respondents who are Hispanic/Latino or Black was also included in the initial sample. As with most national surveys in the United States, the NLSY includes an oversample of minority respondents in order to have enough sample members to provide adequate subgroup comparisons by race and ethnicity[26]. The final survey wave

[25] The 2015 survey wave was released in September 2017 when the empirical work of this investigation was already completed, so this panel's data is not included in this study.
[26] The NLSY racial breakdown for the 1997 sample is as follows: Non-black/non-Hispanic White: 4,665 (51.9%); Black non-Hispanic: 2,335 (26%); Hispanic or Latino: 1,901 (21.2%); Mixed race: 83 (0.9%).

used for this analysis in 2013 (respondents between 29 and 34.5 years old) included 7,141 respondents. The low attrition rate across 16 survey rounds (21.5%) makes this cohort dataset one of the more robust available (BLS 2015). All 16 waves of the survey were synthesised to create a longitudinal dataset organised by person-wave, and unlike the BCS no subsamples were utilised for this case. As there are cases in the dataset with different numbers of survey waves present, this dataset is also considered an unbalanced panel and the modelling methods chosen had to also account for this characteristic.

Missing Data Issues

As with other longitudinal investigations, a focus on ensuring an adequate sample size across panels is of primary importance. A large number of respondents with all or close to all panels ensures that the inferences drawn from the data are not biased and that key demographic groups can be adequately compared. To address the primary issue of adequate sample size across all panels, this work investigated missingness by panel, how the panels were constructed to properly address the research question, and if any particular covariates had missingness concerns that needed to be addressed. Panel construction is detailed for both datasets in turn, noting both the theoretical and practical considerations taken in this process.

In the BCS sample of the 1,645 respondents from the Twenty One Year sample survey the investigation originally considered including data from the 1986 (age 16) survey, the beginning of the youth period. However once waves were synthesised over 10% of the sample (186 cases) did not have any data for this wave, detailed in Figure 1 of Appendix B. A requirement of including the full 1986 data would drop far too many cases during model integration and therefore the full set of 1986 indicators were not used. The only indicator from the 1986 survey used was parental income, where respondents without 1986 waves or without parental income data were denoted as missing (Skafida 2011). The household level outcome of gross household income was measured at age 42, and therefore cases without age 42 data were dropped. The requirement of data at the age 42 wave also meant it was not useful to apply survey weights to the BCS data to correct for attrition. Also, survey weights for the Twenty One Year sample cohort were not available. Those without one other wave of survey data were also removed from the final dataset: due to the long time period between the age 21 and 42 year survey it was necessary to have at least one other adulthood wave in order to adequately estimate trajectories on the two individual

outcomes with longitudinal models. This resulted in 31% of the original 1,645 cases dropped, with a resulting pattern of panels detailed in Figure 2, Appendix B. 69% of the sample (787 cases) have all panels with an additional 10% of the sample with data for all panels except for age 26 (183 cases).

The NLSY dataset begun in 1997 surveyed 8,984 respondents which also includes information from a parental survey (if provided by the parent). All of the models for the NLSY data have longitudinal outcomes and therefore it was not necessary for cases to include the 2013 wave. Figure 3 of Appendix B describes the pattern of responses for the 8984 cases; like in the BCS survey, to improve the validity of the estimation cases with less than half the panels (6 panels or less, 7.6% of the total) were removed which reduced the number of cases in 1997 to 8,296. Figure 4 of Appendix B details the pattern of panels after those cases are dropped, which shows that 4,966 cases have all 16 panels (59.6% of sample) with another 218 cases with all waves except for 2013 (2.6% of sample). As mentioned above, oversampling of racial minority groups ensured that the NLSY sample included large enough groups to compare and the aim for this investigation is the same; thus, no racial weights are applied to the data to mirror the slightly lower proportion of Black and Hispanic respondents in the population.

With the newly created cohorts of the BCS and NLSY, it was therefore possible to undertake complete case analysis available with confidence that a large majority of observations would not be dropped when models were integrated, as over half of cases had all of the panels. The second issue to address is missing values in the proposed covariates for use in each case. Univariate analysis concluded that the covariate used to measure parental income/parental aid history had the largest occurrence of missing data; in both cases close to a quarter of sample members had missing data on these variables (provided in further detail in Appendix C). Listwise deletion of all the cases with missing data on these variables would likely distort the results. One of the common ways that missing income data is addressed is to impute estimated values based on information provided in previous or future panels; however, the 1986 survey in the BCS and the 1997 survey in the NLSY were the only panels where parental income was provided for each case and therefore imputing values in this way was not theoretically desirable. Instead, following the methodology of Skafida (2011), a separate 'Missing' income response category was created on the parental income/aid history covariate to avoid losing a large portion of cases from the analysis

without the labour intensive work of multiple imputation for a project of this size. Once the issue of non-response was addressed in the parental income covariates, univariate analysis concluded that missingness on other covariates affected only a small number of cases that were deemed not to be detrimental to the sample (see Appendix C). Once the cohorts were constructed to be theoretically appropriate and large enough to ensure validity, a complete case analysis was able to commence.

Data Limitations

As mentioned above, the British Cohort Study dataset has a particularly large gap in the time period between survey waves; most notably between age 21 and 30. Although the 21-year survey does include benefit information in the youth period, ideally the dataset would have one or two more waves of data in the youth period to better estimate the impacts of youth-period events on the outcomes. There are also two BCS waves where benefit receipt information was either not gathered, or was not captured in forms compatible with prior survey waves for synthesis. The age 26 postal survey did not ask any questions on benefit receipt and therefore waves were dropped, and the age 38 telephone survey asked respondents about sources of income, which were deemed to have issues with measurement validity due to the lack of question specificity[27].

The only data-related limitation with the NLSY survey was that the Department of Labor does not make state-level data available to researchers at institutions outside of the United States. So although NLSY cohort members have state level identifiers, this investigation could not engage with this data. It would have been ideal to utilise this information

[27] The 2008 survey was done by telephone and did not ask questions on receipt and amount of specific benefits. Rather, respondents were asked if they did or did not have particular sources of income. For the purposes of this investigation, the most notable of those sources are 'tax credits', 'income support' and 'other state benefits'. The question format is problematic in two ways. First, 'other state benefits' could include many benefits that are not means-tested (e.g. Employment Support Allowance or Disability Living Allowance) and therefore are out of the scope of this research. Thus, this income source is not fully compatible with the measures of benefit receipt in the other waves. Second, the 'income support' category could be interpreted broadly as other government assistance rather than the specific Income Support benefit programme noted in other waves. This potential problem with the 2008 data was brought to my attention when the longitudinal figures for overall benefit receipt and Income Support had major spikes in receipt that went wildly counter to IS national receipt trends (even taking into account an increase in benefit receipt due to the economic recession).

(perhaps) as a multilevel longitudinal model, but unfortunately that was not possible[28]. Rather, the geographic indicator for respondents is provided at the Census region level.

3.4 Model Elements and Modelling Logic

Specification of key model elements

For each of the datasets used here, three model elements had to be specified based on their theoretical and methodological appropriateness for answering this research question: the measurement of time, the outcome measures (dependent variables), and the groups of factors that serve as the independent variables. These three elements are then operationalised using measures available in each dataset. In each of the two cases the measurement of time used is age of the respondent: this is a standard measurement of time in life course research that allows researchers to view the results in a developmental framework. The age measure is either specified as a continuous or categorical variable (used as time dummies) depending upon the type of age data available in each dataset: in the BCS sample age is measured at 21, 30, 34 and 42 and in the NLSY sample the age variable is continuous.

The concept of economic independence was detailed in the literature review and is the outcome of interest, consisting of living above a poverty income and attaching steadily to the labour market. To operationalise the first component of economic independence, living above a poverty income, a household measure of economic status (household income quintile in the BCS, poverty ratio specified as an ordinal variable in the NLSY) and an individual measure of income (wage income specified as a continuous variable) are used. The individual measure of wage income provides evidence of the respondent's own ability to live above a poverty income through waged work, and the household income/poverty ratio measure provides a full picture of the respondent's economic circumstances as it includes partner income and income from government assistance if received (aligning with the approach of Smeeding & Phillips 2002). The household measure may be particularly relevant to explore for respondents who may have little income from their own wages but may indeed still live above a poverty income with other income sources. A household-level outcome measure also enables an investigation into whether individual drivers impact the

[28] Suggestions of future research utilising this aspect of the NLSY data in research question like the one posed here are detailed in Chapter 6.3.

household the same as they may impact the individual; it is likely that particular factors in an individual outcome do not have the same type or magnitude of effect when a household measure of economic status is used. The second concept, labour market attachment, is measured by usual weekly hours of work (in the BCS) or in the number of weeks worked per year (in the NLSY); both measures of work intensity[29]. As will be noted in the Results chapters, there are benefits and drawbacks to these measures of work intensity, especially given the type of labour market participation patterns common in the youth labour market (e.g. more seasonal or temporary work). Notably, these measures operationalise waged work intensity, and therefore those who are not attached to the formal labour market in each case are counted as 'zeros' for this outcome rather than dropped in the analysis.

The groups of factors used as independent variables were selected both based on previous research identifying explanatory variables in modelling economic outcomes while also including factors relevant to youth transitions. Independent variables included in each of the models were categorised into five main covariate groups in order to aid stepwise model building: demographic characteristics, employment domain factors[30], family formation factors, parental background and government interventions. These groups (or blocks) organise the covariates included in each of the models to ensure concepts are theoretically grounded and consistent between cases, even though the measures necessarily differ.

The choice of these blocks of covariates reflects previous theoretical and empirical evidence in each of the fields of research this work engages with. The first block of covariates measures demographic characteristics as appropriate to the model, including gender, race, highest education level, region of residence and general health. The 'transition project' framework used to organise the literature in Chapter 2 is explicitly reflected in the employment and family formation domains, captured in separate blocks of covariates. Employment domain covariates include work intensity or employment status (in wages models) and general health, which is included given existing evidence on labour market attachment and health status. Family formation domain covariates measure changes in family composition (e.g. household size and marriage) and key youth 'trigger events'

[29] Please see Table 3 for a detailed description of the operationalisation of each outcome variable. Full descriptive statistics for each outcome are detailed before the presentation of each of the model results in Chapters 4 and 5.

[30] The employment domain block of covariates was not included in a model of work intensity, as this was the primary outcome measured.

(DiPrete & McManus 2000) such as young parenting and residential transitions[31]. Parental background, a key driver in a variety of economic, social and health outcomes, is measured using either parental income at the beginning of the youth period (BCS wave 1986 & NLSY income 1997[32]) or parental aid history[33]. The final block of covariates, government intervention, contains where possible information both on government training participation and the receipt of government transfers.

Appendix C details univariate statistics for all measures used in model estimation in both cases for covariates apart from outcome measures or government intervention covariates, which are provided in the Results chapters. The tables in Appendix C detail the distribution of responses in each category in each wave in the BCS and the average of four waves in the NLSY case for categorical variables, and the mean values of continuous covariates.

Modelling Logic

A stepwise modelling logic was followed for this model, where multiple iterations of the models were performed and sets of covariates were added to the model according to the theoretical logic of how factors may influence the outcome. In this case the groups (or blocks) of covariates are entered into a longitudinal model using a logic that can be

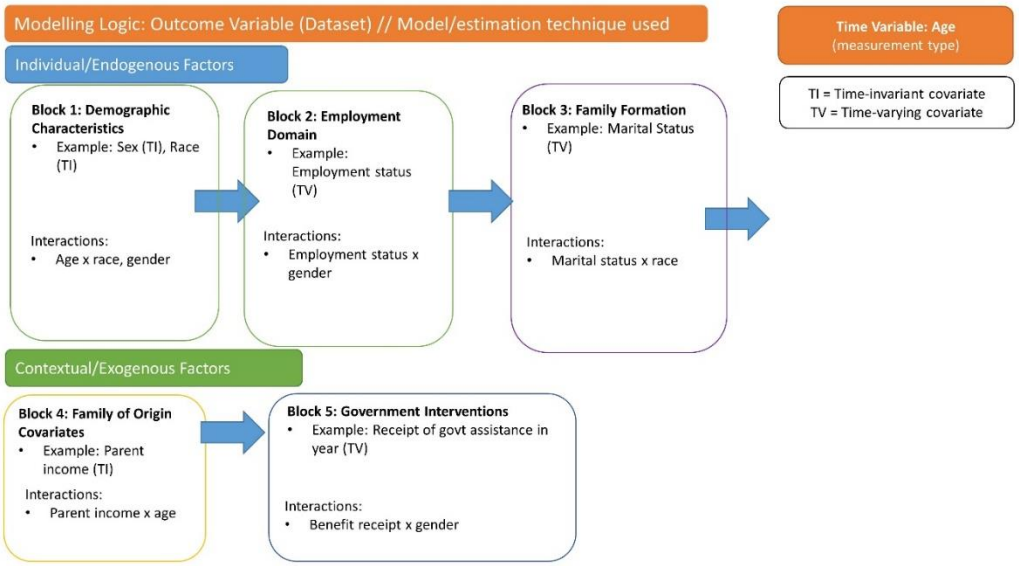
[31] It was determined through preliminary covariate descriptive analyses that the BCS dataset did not contain an indicator of residential independence that is detailed enough to provide meaningful information on family formation processes as is found in the US sample. The survey at age 21 asked if the respondents were living in a household outside of their family of origin (yes/no), and around 95% of respondents were indeed living away from their family home. No further information was provided in subsequent surveys about their moving out experience in the youth period.

[32] The measure of parental background used in the wages and work intensity models of the NLSY is gross household income in 1997, a measure contained in the primary cohort dataset rather than parental dataset. Over 97% of respondents reported household income in 1997 as their parental income, and therefore this measure is used as an ordinal quintile variable with a missing category as a family of origin covariate.

[33] The parental income quintile variable created and used in the NLSY individual models used family income in 1997 as the parental background measure (detailed in footnote 26), which is also used to create the poverty ratio outcome. Given that both the outcome variable and an independent variable use the same underlying measure it is not methodologically sound to use these two variables in the same model. A few options for a new parental background covariate were considered, both of which use the history of government aid receipt as the measure of socioeconomic status. There were issues regarding the number of valid responses for the first choice covariate, the variable that measured whether parents received any government assistance in the last 5 years, with only around 2,600 valid responses with little information on the reason for missingness. The second choice variable with a full sample of valid responses measures whether the parent received any form of government assistance since age 18 or since their eldest child was eligible for Medicaid assistance.

described as inside-out. The endogenous time-invariant factors (demographic characteristics) are included in a model first, after first modelling age and the outcome of interest, and model building proceeds generally to individual covariates in the two transition domains. The exogenous factors are included after those, from parental background information to finally covariates on government intervention. The figure below (Figure 2) is a template of the modelling logic followed in each of the six models used in this research. For each outcome a diagram is populated with covariates available and appropriate from each dataset that are then used in model iterations. The diagram details the specification of the dependent variable, the covariates included in each block and whether they are time-varying or time-invariant, any covariates that were tested in the model and not included in the final model specification (in red), and interaction terms used in model iterations. In this way the modelling logic diagram serves as a roadmap for the empirical analysis; in all, six completed logic diagrams were created for this investigation.

Figure 2: Modelling Logic Template



3.5 Methodology and Estimation Techniques

For these and every type of quantitative model, the aim in the model building process is not only to include as many appropriate but parsimonious predictors in the model as possible, but to also select a modelling strategy that is able to control for unobserved characteristics of respondents that either cannot or have not been measured (Allison 2009, p. 1). For this longitudinal data the class of regression models considered for the linear outcomes are

fixed effects models, which also include random effects and correlated random effects models as special cases of fixed effects models (Allison 2009; Wooldridge 2002; Wooldridge 2012). For the two ordinal outcomes, ordered logistic models are detailed. These methods are detailed in turn and their appropriateness is considered for use given the data and research question.

Modelling a Linear Wage Outcome: Fixed Effects and Random Effects

In the first instance of the linear outcome, either monthly or annual wages, a determination had to be made as to which longitudinal model was best – fixed effects (FE) or random effects (RE). The most substantive difference between these two models is 'the structure of the associations between the observed variables and unobserved variables' (Allison 2009, p. 2) and therefore how they model endogeneity (Wooldridge 2002). To properly detail the difference between each of these model types, the work begins with a standard longitudinal model, with covariates ($\beta_1, \beta_2 \ldots \beta_k$) either time-varying or time-invariant and two different error terms; one error term that captures the unobserved effect within an individual over time (u_{it}) and an error term that varies between individuals that does not vary over time (a_i).

$$y_{it} = \beta_1 x_{it1} + \beta_2 x_{it2} \ldots \beta_k x_{itk} + a_i + u_{it} \quad \text{(Equation 1.1)}$$

It is the handling of the subject-specific error term given in a_i where the fixed effects and random effects models differ. In a fixed effects model, the unobserved variables a_i are allowed to have any correlations with the time-varying observed variables in the model, and have fixed parameters that can be controlled for using a method called time-demeaning (Allison 2009). This method computes the means over time for both the response variable and time varying predictor variables per person to create a 'fixed' set of error parameters (Allison 2009; Wooldridge 2012). The time-demeaning process then subtracts the person-specific means from the observed values of the variable, which also in turn removes the error term a_i and the time-invariant predictors from any results (Wooldridge 2012, p. 467). By explicitly modelling this 'fixed effect' over time, subjects serve as their own controls for unobserved characteristics a_i and therefore these are estimated out of the equations. In a fixed effects model, then, after the time-demeaning (also called a within-transformation) the model is specified:

$$\ddot{y}_{it} = \beta_1 \ddot{x}_{it1} + \beta_2 \ddot{x}_{it2} + \cdots \beta_k \ddot{x}_{itk} + u_{it} \quad \text{(Equation 1.2);}$$

with $\ddot{x}$ indicating the covariate is time-demeaned.

In any fixed effects model, therefore, there are estimates for time-varying predictors and within-subject variation only. This type of model is generally considered to be a more efficient modelling technique for panel data, as the error term a_i is removed and all observed and unobserved time-invariant predictors (with time-invariant effects) are controlled for (Allison 2009).

A random effects model is specified in the same way as Equation 1.1., although now the error term a_i is assumed to be a set of random variables with a specified probability distribution; in this case, a_i is assumed to be normally distributed with a mean of zero which adds the intercept α to the equation. Importantly in this specification a_i is also assumed to be uncorrelated with any of the time varying predictors (Allison 2009). Because of this assumption, a fixed effect cannot be estimated and the subject-specific error term cannot be removed from the model using the process of time-demeaning, nor are the time-invariant predictors also removed in this transformation. The equation for a random effects model is the same as Equation 1.1 with the specified covariate structure below. This covariate structure indicates that the error term and each covariate and the response are not time-demeaned, where *t* is time period and *j* as person-year:

$$y_{it} = \alpha + \beta_1 x_{it1} + \beta_2 x_{it2} \dots \beta_k x_{itk} + a_i + u_{it} \text{ (Equation 1.3)}$$

$$\text{Cov}(x_{itj}, a_i) = 0, \text{ t = 1, 2,.. T; j = 1, 2, …k}$$

The assumption of zero correlation between unobserved characteristics in a_i and the time-varying predictors (x_{itj}) is a large one, as it assumes that no variables of importance are omitted (Williams 2015), therefore from an endogeneity standpoint, a fixed-effects model is preferred. However, one of the drawbacks of a fixed effects model is that it does not estimate the effects of time-invariant covariates directly (like the gender of the respondent) and therefore these covariates cannot be analysed. Allison (2009) notes as well that a fixed effects approach generally sacrifices bias in estimators for greater efficiency: in general, fixed effects model results have larger standard errors, wider confidence intervals, and higher p-values because fixed effects models only use information on the within-effects (time-varying predictors and errors) rather than both the within-effects and between-effects (time invariant predictors and errors) used in random effects models. Importantly, 'if predictor variables vary greatly across individuals but have little variation over time for each individual, then fixed effects estimates will be very imprecise' (Allison 2009, p. 3). A

Hausman specification test is commonly used by researchers to determine which type of model is more unbiased by comparing both RE and FE estimates of the time-varying predictors. If the model does not reject the null hypothesis the estimates of time-varying covariates in the RE and FE models are not found to be statistically significantly different from one another, and random effects estimates should be used as they have lower standard errors. If the test rejects the null hypothesis, a fixed effects model should be used (Wooldridge 2012). In the case of both the BCS and the NLSY data, models of wages were estimated using both the RE and FE models and Hausman specification tests were completed. As perhaps expected, due to the large within-subject variation in each of datasets on the covariates of interest the Hausman test rejected the random effects assumptions and therefore a fixed effects model should be used[34].

However, the drawbacks of using a fixed effects model is made clear when some of the key time-invariant predictors for the youth transition experiences in particular are removed from the model. Estimates of the impact of young parenthood, age at first move out, and parental background are not able to be explicitly estimated in a fixed effects model – potentially key areas of interest in relation to the receipt of government assistance and to the outcome of economic independence more broadly. In particular for the NLSY model, the race covariate is also now controlled for and therefore not estimated; this removes a covariate that may be able to provide some nuance to the discussion of both youth transition experiences and government assistance, particularly in interaction effects.

Modelling a Linear Wage Outcome: The Correlated Random Effects Model

Wooldridge (2009, 2012) presents an alternative model to both the fixed effects and random effects model that allows for correlation between random effects and time-varying predictors by explicitly allowing α_i to be correlated with time-varying predictors. Rather than using time-demeaning to remove the time-invariant covariates and the error term a_i, this method allows correlation with the time-average of time-varying predictors as in the fixed effects model. This correlation is given in the linear relationship:

$$a_i = \alpha + \gamma \bar{x}_i + r_i \text{ (Equation 1.4)}$$

[34] See Appendix D for details of the Hausman test results performed on the final wage models for both the BCS and the NLSY data.

This function is substituted for the error term in the random effects model (Equation 1.3) with the vector of covariates (both time-varying and time-invariant) given as βx_{it}, and includes the addition of the vector of time-averaged variables which controls for the correlation between α_i and the sequence of time-varying variables as was done in the fixed effects model ($\gamma \overline{x}_i$). The correlated random effects model is therefore:

$$y_{it} = \alpha + \beta x_{it} + \gamma \overline{x}_i + r_i + u_{it} \text{ (Equation 1.5);}$$

where r_i is the time-constant unobservable error term that includes the relationship between itself and time-varying covariates, and $\gamma \overline{x}_i$ is the vector of mean values of time-varying predictors.

These additions allow for the estimates of the time-varying main effects to be equal to those obtained using a fixed effects model while still allowing for the time-invariant predictors to be estimated (Wooldridge 2009, 2012). This model 'provides a synthesis of the RE and FE models' while also including time-invariant predictors 'in what is effectively a fixed effects analysis' (Wooldridge 2012, p. 480). This type of mean-centering is also suggested by Allison which he calls a 'hybrid method' between FE and RE models (2009). Allison notes in particular that the coefficient effect sizes for the mean-centred/time-averaged variables ($\gamma \overline{x}_i$) are 'not particularly enlightening' (2009, p. 25) when considered on their own, but are used primarily to obtain more accurate estimates of the covariate effects of the time-invariant variables as a technical tool. Therefore, their effects in the Results chapters will not be considered separately.

Modelling a Longitudinal Ordinal Outcome: Random Effects Ordered Logistic Regression

The work intensity outcome in both datasets and the household poverty ratio outcome in the NLSY data are specified as ordinal variables that are measured at every survey wave. Modelling these outcomes must therefore use the only longitudinal model for ordered outcomes, a random effects regression – either ordered logit or ordered probit. As noted by Allison (2009) and others, a fixed effects model (or conditional maximum likelihood) cannot be used on an ordered outcome using panel data, as it 'does not have reduced sufficient statistics for the error parameters' (u_{it}) (Allison 2009, p. 42). As noted in the STATA guidance for estimating a random effects ordered logit model, 'The conditional distribution of the dependent variable given the random effects is assumed to be multinomial with

success probability determined by the logistic cumulative distribution function[35]' (StataCorp 2013b, p. 2). Simply, an ordered logistic regression model estimates the probability of a respondent's outcome in one of the categories of the outcome variable compared to the higher paired category of the outcome variable. In the case of a three-category poverty ratio outcome, for example, the model seeks to estimate the difference in odds of being in a higher (or worse) poverty ratio category given particular characteristics of explanatory variables. As a probability function, the equation is specified as:

$$\Pr(y_{it} > k \mid K, x_{it}, a_i) = H(x_{it}\beta + a_i - K_k) \text{ (Equation 2.1)}$$

for i = 1, . . . , n panels, where t = 1, . . . , n_i , $a_i$are panel-level random effects independent and identically distributed $N(0, \sigma_v^2)$, and K is a set of cutpoints $K_{1,}$, $K_{2,}$ . . . K_{K-1}, where K is the number of possible outcomes; and H(·) is the logistic cumulative distribution function (StataCorp 2013b).

Perhaps more appropriate when reading STATA results, the equation is also specified as a latent variable, with the continuous latent variable y_{it}^* estimated but not specifically interpreted. The underlying latent variable y_{it}^* is determined by the outcome parameters and the logit link function (H), and as respondent values of y_{it}^* cross particular thresholds their values on the observed ordinal variable y changes (Williams 2016). The latent variable equation is specified as:

$$y_{it}^* = \beta x_{it} + a_i + u_{it}; \text{ and (Equation 2.2)}$$

$$y_{it} = \begin{cases} 1 \;\; if \; y_{it}^* \leq K_1 \\ 2 \;\; if \; K_1 < y_{it}^* \leq K_2 \\ \ldots . K \; if \; K_{k-1} \leq y_{it}^* \end{cases} \text{ (Equation 2.3)}$$

The within-subject errors u_{it} are distributed as logistic with mean zero and variance $\pi\frac{2}{3}$ and are independent of panel-level random effects a_i. Equation 2.3 specifies the values of the latent variable that correspond to the cutpoints in the model, which are estimated (and

[35] The logit function that distributes the errors in a logit model is contrasted with the probit function used in probit models, whereby the error terms are distributed following a normal curve with a variance of 1. Practically, the difference in the interpretation of the coefficients of logit and probit models guided the choice to use logit models: coefficients from a logit model are easily transformed into odds ratios, while coefficients for probit models are interpreted as the difference in z score associated with a one-unit difference in the predictor variable (UCLA Statistical Consulting Group 2017, The Analysis Factor 2017). Because this investigation does not engage with predicted probabilities, it is therefore valuable to have more easily interpretable coefficients as provided by the logit model.

change) with the addition of covariates. The values of the covariates in the model, then, specify what effect particular characteristics have on the latent variable y_{it}, in log-odds: in practice, reading results of a logistic regression involves estimating the changes in odds of being in higher categories of the outcome variable (given by the underlying latent variable).

A major assumption of ordered logistic regression models (both with cross-sectional and panel data) is that the relationship between the pairs of outcome groups is the same: the logistic regression model estimating a respondent's outcome in category 1 versus category 2 is the same as it is for a model estimating a respondent's outcome in category 2 versus category 3, for example (Rabe-Hesketh and Skrondal 2006). The proportional odds model assumption allows for one set of estimates to apply to all pairs of categories: the coefficients given by a model output would therefore describe the relationship between both the lowest and middle categories of an ordinal variable and the middle and highest categories (UCLA Statistical Consulting Group 2017; Williams 2016). For ordered logit models for cross sectional data, this assumption is tested by using a Brant test, which determines whether the logistic regression outcomes are similar for different pairs of outcomes, or if a different model should be specified. In the case where the proportional odds assumption does not hold, a generalised ordered logit model is run (Williams 2016). Unfortunately, a generalised ordered logit is not available for random effects ordered logit models, so this investigation must use the estimates provided by a proportional odds model (StataCorp 2013b).

Modelling Household Income for the BCS 1970: Ordered Logistic Regression

Due to lack of time-varying data on gross household income for the BCS sample, the outcome for household income was measured only at age 42. This feature of the data necessitates a different modelling logic and modelling strategy and allows for answering a slightly different facet of the research question. Unlike a longitudinal model, it is not possible to investigate how demographic, family and government assistance covariates influence cohort members' outcome variable *trajectories* throughout the intervening 20 survey years. Rather, this model focuses on a single point in the cohort member's life course (at age 42) and the preconditions, household and youth-period specific factors that can help to explain variation in a cohort member's outcome at age 42. Thus, rather than investigating how covariates influence the outcome variable *trajectory,* this models instead investigates how experiences from a *particular time period* affect the outcome variable at a

particular point in time. As will be noted in the modelling logic diagram for this model in Chapter 4.7 then, there are no time-varying covariates in the model, rather covariates are selected from specific panels as theoretically appropriate.

The equation for ordered logit models without time-varying outcomes or covariates is relatively similar to a longitudinal ordered logit model, and can be specified as a probability equation and as a latent variable. The specifications, of course, have no panel-specific or time-specific considerations. Again, the logit function is used to model the error terms as opposed to the probit function for theoretical reasons (see Footnote 33).

The ordered logit model is written where the latent variable $y_j^* = \beta x_j + u$ is substituted in the probability function below with independent samples j, and i is defined as the values of the outcome variable, with $i = 1$ as the minimum value for the category and $i = 2$ as the next highest category and so on for k categories of the outcome. The probability of observing outcome i corresponds to the probability that the estimated linear function, plus random error, is within the range of the cutpoints estimated for the outcome:

$$\Pr(y_j = i) = \Pr(K_{i-1} < \beta x_j + u \leq K_i) \text{ (Equation 3.1);}$$

As with the random effects ordered logit model, the error terms u are assumed to follow a logit function, and the estimated coefficients in the vector βx_j and the error term are interpreted as the odds of being in a higher category K_{i+1} (StataCorp 2013a). This interpretation is similar to that of the random effects ordered logit model. As this model does not include any panel information there is no random effects term (a_i) to include in a model or time-varying covariates.

Key features of the models are summarised in Table 3 and provide information about the outcome to be measured, its operationalisation in the models, and method used to model the outcome.

Table 3: Key Features of Empirical Models, BCS 1970 and NLSY 1997		
Concept to be measured	***Outcome variable specification***	***Model estimated***
1970 British Cohort Study		
Waged Work	Individual Monthly Employment Income (logged)	Correlated Random Effects
Work Intensity	Usual weekly hours of work (ordered categories: no work = 0 to high intensity = 4)	Random Effects Ordered Logistic Regression
Household Economic Status	Gross household income age 42 (quintiles)	Ordered Logistic Regression
National Longitudinal Survey of Youth 1997		
Waged Work	Individual Annual Employment Income (logged)	Correlated Random Effects
Work Intensity	Weeks worked per year (ordered categories: none/very low = 0 to very high = 4)	Random Effects Ordered Logistic Regression
Household Economic Status	Poverty ratio (0 = above 200% FPL; 1 = 100 -200% FPL; 2 = below 100% FPL)	Random Effects Ordered Logistic Regression

Alternative Model Considerations

The most common alternative modelling strategy considered for use with this data is event history analysis, a popular choice among both life course researchers and welfare state researchers (particularly in the United States). This strategy is defined as 'the analysis of data that correspond to the time from a well-defined time origin until the occurrence of some particular event' (Corbett 1995 in Guo 2009, p. 2). Researchers following these methods are concerned with the 'whether and when' of an event as the dependent variable in an analysis (Guo 2009; Menard 2002): for example, there are copious studies that measure whether a respondent receives government assistance during the defined period of study and how long the respondents receive this assistance (used perhaps most prominently in Bane and Ellwood's 1994 work on AFDC receipt dynamics). These methods are employed by youth transitions researchers who use traditional markers of adulthood in their work, as these markers provide distinct 'change of state' events that can be used as endpoints that time can be measured against (Guo 2009). The empirical research of this investigation both moves away from using these markers of adulthood and is less concerned about *when* in the life course particular markers are achieved; instead the work

is interested primarily in *how* these events or experiences influence broader economic independence trends for respondents. Thus, an event history analysis is not theoretically appropriate to answer the research question of interest.

3.6 Analytical Strategy: The Comparison

As noted at the start of this chapter, the second stage of this analysis is the post-estimation comparative discussion which occurs after the three empirical models are completed for each case. While the comparative aspect of this work is best described as a contrast of contexts (Skocpol & Somers 1980), it is valuable to place the work among other methodological approaches in comparative social policy and politics. Each of the country results can stand alone as single case studies, and indeed this work can make additional contributions to existing research on the BCS and the NLSY cohorts with a more direct focus on government interventions. The detailed single cases provide the deep level of description necessary for a contrast of contexts, and the two cases with in-depth data allows for detailed themes to emerge about how experiences in the three welfare sources impact each cohort's economic independence outcomes. Again, because the similarities of these cases are found at the systemic rather than programmatic level it is not appropriate to directly compare the effect sizes between models from each case.

However, similar concepts in the two cases must still be constructed during empirical modelling in order for a comparison to occur. A pivotal aspect of the research design and model construction is the use of 'equivalising concepts', which allow for the same phenomena to be analysed in each case but with different operationalisation as the case allows (Mabbett & Bolderson 1999). The creation of concepts for analysis had to necessarily engage with Sartori's ladder of abstraction (1970), whereby concepts are made more general or more precise in order for them to 'travel' between the two cases. For example, the concept of 'work intensity' as an outcome is the same for each model but had to be operationalised differently in each case based on data availability (i.e. usual weekly hours of work versus weeks worked per year). When constructing modelling logics for each case (using the template in Figure 2) the process of creating equivalising concepts in each of the blocks of covariates is of paramount importance; similar concepts must be present in order for any comparison to take place (Collier & Mahon 1993; Gerring 2005; Mabbett & Bolderson 1999; Sartori 1994). The detailed results available in the similar blocks of covariates and on similarly-defined concepts allows this work to engage with the similarities

and differences of each case concurrently and within the wider lens of intra-regime comparison without losing the detail of a single case study approach.

The use of single case studies is often viewed in opposition to variable-oriented (or large-N) comparative studies in social policy. In this approach, many countries are compared quantitatively using the same set of indicators, often sacrificing the context-specific granularity that a single case can provide (Clasen 1999; Ebbinghaus 2005; Rose & Mackenzie 1991). The use of a variable-oriented approach also must use equivalising concepts in order for many disparate countries to be compared in the same model; for example, countries must be compared on outcomes like GDP, which is measured at the national level. This 'loss of information about distinctive national social policy institutions' is a particular drawback of focussing the work at such a high level of abstraction (Atkinson 1995 in Mabett & Bolderson 1999). When measures can only be situated at a national level (like GDP) and the number of equivalent covariates between ease case is small, individual issues and trajectories are not able to be investigated. In previous life course studies of the youth phase, variable-oriented comparative studies served as the starting point for discussions about trends in youth transitions across countries (Buchmann 1989; Elder 1985; Rindfuss 1991). However, the outcome measures of these works necessarily conformed to the 'traditional' markers of adulthood (e.g. age at first marriage, first child) as these were some of the only outcome measures that were equivalent in many different countries. The new outcomes of interest here, along with the focus on how government interventions impact individuals rather than nations, make this study less suited to a typical large-N approach situated at the country level. The comparison therefore is located at the thematic level using the welfare mix analytical framework, investigating the structural areas that influence outcomes in each source. Because this investigation aims to illuminate the similar and unique features of each context as they relate to the outcomes of interest in the single cases, the work sits closer to a single case study than that of a variable-oriented approach. Despite this orientation, comparative design considerations had to be addressed (particularly equivalising concepts) in order for a post-estimation comparison to occur.

3.7 Ethical Considerations

Each of the datasets used in this research are publicly available and anonymised to ensure that respondents cannot be identified, so the majority of ethical concerns in that regard have been addressed by the survey administrators. The 1970 British Cohort Study was

accessed in the UK Data Archive with all variables included, and the NLSY 1997 was accessed through the NLS Investigator. I will comply with Data Protection legislation and with the data security policies of the survey organisations which hold the data, and will ensure that respondent anonymity is protected. I have completed the University of Edinburgh's School of Social and Political Science Research Ethics Level 1 self-audit checklist.

Chapter 4: Case 1 Results, 1970 British Cohort Study

4.1 Introduction to the BCS Results and Government Intervention Descriptives

The following pages detail the empirical results for the first of the cases investigated, the 1970 British Cohort Study (BCS). The same research question is used both in this case and the US case investigation and is as follows:

What is the impact of receiving government transfers in youth (age 16-24) on a low-income young person's ability to become economically independent – live above a poverty income and attach steadily to the labour market – by their mid-30s/early 40s in the United States and the United Kingdom?

This question will be addressed in three empirical models that investigate economic independence in Chapters 4.3 to 4.6. However, before any regression model estimations it is important to understand more about the independent variable of interest, benefit receipt; the results of which will be applicable to all models. Detailing benefit receipt for this sample of respondents, and in particular how benefit receipt differs by demographic characteristics, can indicate what type of respondents engage with the benefit system and at what time period in their life course benefit receipt may be most notable. The results of these figures will most directly guide the selection of interaction terms in the empirical models.

Changes to government assistance programmes during the time period of the BCS sample (1991-2012) results in a variety of means-tested benefit programmes available to eligible cohort members in the survey period. Between 1991 and 2000 there were two significant changes to the benefit system, the introduction of Jobseeker's Allowance and the creation of the Working Families Tax Credit, which likely changed the proportion of sample members who accessed the benefit system at age 30. Because there are only two benefit programmes that are available in all survey waves – Housing Benefit and Income Support – benefit receipt[36] is captured using a binary variable indicating whether sample members accessed any of the benefits in the following programmes each year:

[36] Benefit receipt for sample members is considered only when benefits are received as an independent benefit unit apart from their family of origin: for example, if respondents were in their parent's household at age 21 and that household received Housing Benefit, this was not attributed to the respondent's history of benefit receipt.

- **1991:** Unemployment Benefit, Supplementary Benefit/Income Support, Unemployment & Supplementary Benefit[37], Family Credit, Child Benefit, Lone Parent Benefit, Housing Benefit
- **2000:** Jobseeker's Allowance (JSA), Income Support, Working Families Tax Credit, Child Benefit, Council Tax Benefit, Housing Benefit, Incapacity Benefit
- **2004:** Jobseeker's Allowance, Income Support, Council Tax Benefit, Housing Benefit, Incapacity Benefit, Child Benefit, Child Tax Credit, Working Tax Credit
- **2012:** Jobseeker's Allowance, Income Support, Council Tax Benefit, Housing Benefit, Incapacity Benefit, Child Benefit, Child Tax Credit, Working Tax Credit

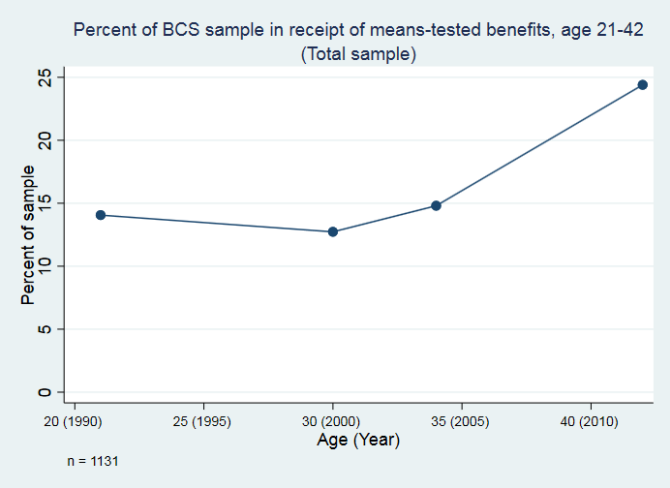
Descriptive figures will be detailed along four demographic features, all of which are included as covariates in the upcoming regression models: gender, highest education level, young parenting status and parental background. As with the regression models, these figures use the age of the survey respondent as the measure of time (x-axis). Because all sample members were born in the same year, the figure can also be read on the x-axis in relation to the year of the survey wave (given in parentheses).

Any benefit receipt descriptive figures

At any point in the survey period roughly 14% or more of the sample are in receipt of at least one means-tested benefit. The increase in the proportion of sample members receiving means-tested benefits from age 34 onwards (in 2004) may likely be due to a confluence of both individual and macroeconomic factors: respondents at 34 are more likely to be in families with children (and therefore more eligible for benefits) and more respondents are also likely to have incomes under eligibility thresholds as a result of the economic downturn beginning in 2007/2008. The receipt trend from 2004 to 2012 for this sample mirrors the increase in the proportion of UK citizens who received benefits during that period (Hood & Oakley 2014).

[37] The data on respondents receiving Unemployment Benefit (contribution-based) and Unemployment & Supplementary Benefit (income-based unemployment benefit) is included in the 1991 overall benefit receipt designation because in subsequent waves JSA receipt is measured without being disaggregated into those receiving contribution-based JSA or income-based JSA.

Figure 3: Benefit Receipt (any), total BCS sample



The overall receipt figure, however, masks variation in benefit receipt by demographic characteristics that are known to be correlated with higher prevalence of benefit receipt. The first characteristic is gender, which is one of the primary areas of theoretical concern in welfare state literature. Figure 4 indeed details a gap in the proportion of men and women in receipt of benefits that increases with age. There is a relatively small difference in proportions of males and females who receive benefits at age 21; around 12% of males and around 15% of females. However, by age 42 just over 30% of females in the sample are in a household that receives benefits compared to just over 15% of males. This suggests that government assistance is likely a more prominent aspect of women's life courses, something that will be investigated further in an interaction term in each model.

Figure 5 illustrates variation in benefit receipt by highest educational qualification[38], with the resulting trend lines as expected given previous evidence in this area. Those with no qualifications have the highest proportions of respondents in receipt of benefits (with around 25% of the group in receipt in their 20s and 30s) and those with the highest level of qualifications have less than 10% of the group in receipt during the survey period.

Chapter 2.2 noted that the timing of one's first child, when early in the youth period, is often considered to be a 'risk factor' in the achievement of economic independence outcomes. This experience is also more prevalent for young people from lower

[38] Educational achievement was measured in 2012 to ensure that all educational qualifications during the survey period were captured. The academic equivalencies to the National Vocational Qualifications were provided in the BCS codebook and reflect academic qualifications when respondents were in secondary school, and were the response options available to sample members when the surveys were taken.

socioeconomic backgrounds, both nationally and in this sample; around half of those who have children before age 21 in the BCS sample are from the lowest two income quintiles[39]. Figure 6 shows wide variation in benefit receipt, as 50% of young parents in this sample receive some type of assistance at 21 compared to just 10% of those who are not parents. This gap decreases as respondents age, such that by age 42 around 40% of those who were young parents are in receipt of benefits while now over 20% of those who were not young parents receive benefits. Importantly, this figure does not provide information on whether the young parenting group (10% of the total sample) receives benefits consistently in all of the waves (detailed upcoming), just that there are members of this group who receive benefits at 42. Although still a greater proportion of young parents receive benefits at 42, because this gap in outcomes does not stay consistent or is in the same direction across the survey period, it suggests that this group of young parents may not remain as systematically disadvantaged as they age.

The final demographic characteristic used to explore variation in benefit receipt is the measure of socioeconomic background, parental income quintile in 1986. Figure 7 indicates that across the survey period between 28% (at age 21) and 35% (at age 42) of those from the lowest socioeconomic background group receive means-tested benefits, compared to around 7% (at age 21) to just over 10% (at age 42) of those from the highest income group. Those with missing parental income quintile data have benefit receipt trends somewhere near the middle of the figure, which may indicate that these respondents may have parental income near the middle to second lowest income categories. The systematic difference in benefit receipt between the cohort members from the lowest and highest income quintiles suggest that indeed parental income will be valuable to investigate in an interaction with benefit receipt in the upcoming models.

Descriptive statistics can also detail the dynamics of benefit receipt, both the movement of sample members off and on benefits between the survey waves and how many respondents receive benefits in every survey after 21. In two of the three transition points (1991 to 2000 and 2000 to 2004) 8% of those who were not receiving benefits in the first instance moved onto benefits in the subsequent panel, and between 50 and 60% of those who were receiving benefits in the first instance were no longer receiving benefits when

[39] A cross tabulation and chi-square results for young parenthood and parental income quintile suggests that there is indeed a relationship between parental background and experience of young parenting but it is relatively weak: Pearson chi2(5) = 20.15, Pr = 0.001, Cramer's V = 0.15.

surveyed again. The third transition point, from 2004 to 2012, showed a slightly higher percentage moving onto benefits in 2012 from those not receiving in 2004 (18.8%) and a slightly lower percentage of those moving off benefits among those who received benefits in 2004 (39%). This is likely due to the effects of the recession, which caused higher poverty across the country and therefore more eligibility for benefits in 2012. Finally, there was very little evidence that sample members who receive benefits in the youth period receive continuously in all of the survey periods. Only 5% of respondents receive benefits at both age 21 and 30, 2.6% of respondents receive benefits at age 21, 30 and 34 and there are no sample members who receive benefits at all four of the survey periods. The results for this sample are consistent with welfare dynamics literature, which suggests that the majority of those on benefits are not long-term recipients but who likely move off and on due to changes in eligibility status.

Figure 4: Benefit receipt (any), BCS sample by gender

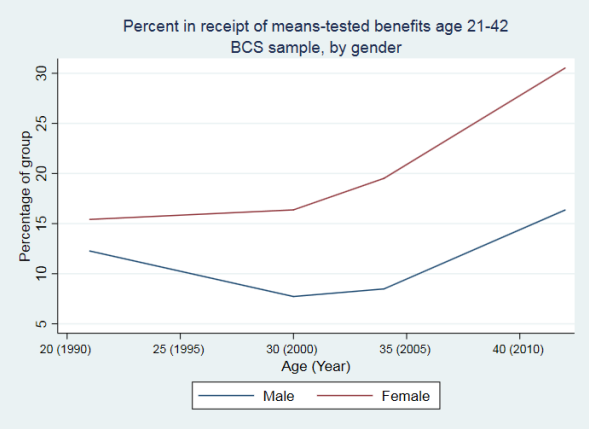


Figure 5: Benefit receipt (any), BCS sample by education

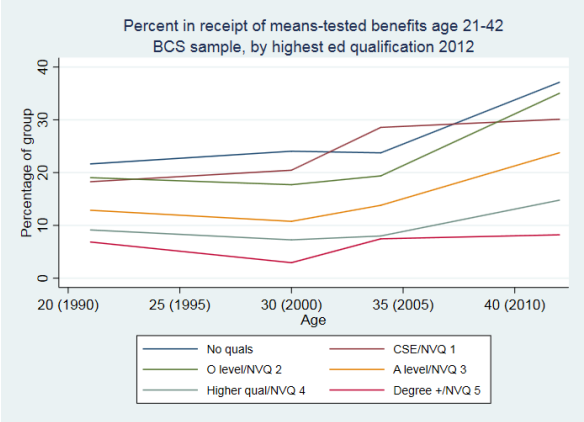


Figure 6: Benefit receipt (any), BCS sample by parenting status at 21

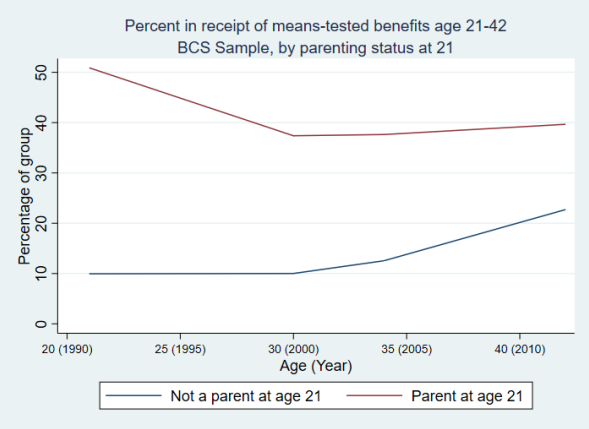
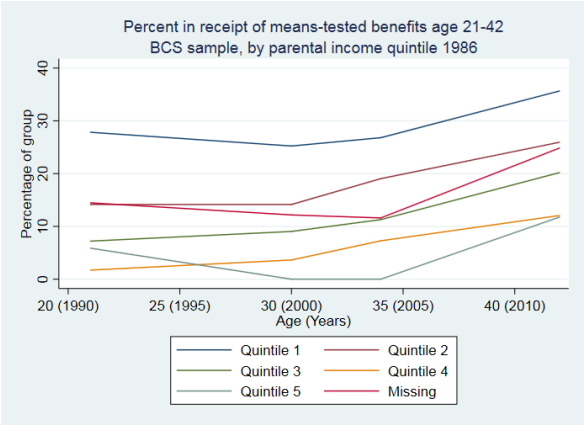


Figure 7: Benefit receipt (any), BCS sample by parental income quintile 1986



Youth Training Scheme participation

The second covariate used to measure government intervention is participation in the Youth Training Scheme. Although this type of assistance differs from the cash or in-kind benefits (e.g. Housing Benefit) detailed above, for some subgroups of young people in the late 1980s and into the 1990s this government intervention may have played a large role in their transition into employment from education. As noted in Chapters 1 and 2, by the late 1980s around 20% of school leavers nationally entered into some form of YTS programme each year and participation has been found to affect both labour market participation and wages. In the upcoming regression models participation in YTS is measured for anyone who participated between ages 16 to 30 (measured at the 2000 survey); in this BCS sample 31% participated in a Youth Training Scheme at some point in this period.

Because the Youth Training Scheme is targeted towards those who leave school before age 18 and who are not bound for higher education, most of those who participate in the scheme are from lower income quintiles (shaded in blue): indeed, there is a relationship between parental income quintile and YTS participation noted in Table 4, but it is not linear. Those from income quintiles 1 and 3 have relatively the same rate of YTS participation, while those from the second lowest income quintile have the highest rates of participation in this programme. While there is indeed a relationship between parental income and YTS participation, the strength of this relationship is relatively weak and suggests that parental income is perhaps not the most important driver in YTS participation.

Table 4: YTS participation by parental income quintile

Parental Income Quintile	**YTS participation**	**No YTS participation**
Quintile 1	15.6%	10.0%
Quintile 2	26.24%	21.26%
Quintile 3	17.38%	24.23%
Quintile 4	2.84 %	7.59%
Quintile 5	1.77%	4.36%
Missing	36.17%	32.63%
Total (column %)	100.00%	100.00%

(Chi-square = 23.0127, Pr = 0.000, Cramer's V = 0.15)

In Coles' work (1995) the Youth Training Scheme was criticised as a programme that provided more support for male school leavers, noting that YTS opportunities were more plentiful in traditionally male-dominated labour market sectors (e.g. construction and mining) perhaps to the detriment of female school leavers. If his criticism is correct, the

impacts of this type of government intervention would be felt more by males in the BCS sample as opposed to females. However, the relationship for this BCS sample does not indicate a strong relationship between gender and YTS participation and about half of the respondents who participated in YTS were males and around half were females (Table 5). However, gender may still serve to moderate the effects of YTS on economic independence outcomes, which can only be tested for in model iterations with interactions.

Table 5: YTS participation by gender

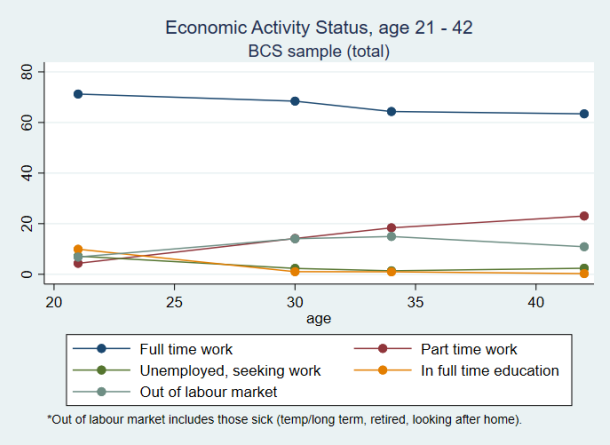
Gender	**YTS participation**	**No YTS participation**
Male	48.02%	39.33%
Female	51.98%	60.7%
Total (column %)	100.00%	100.00%

(Chi-square = 7.0840 , Pr = 0.008, Cramér's V = 0.08)

Case-specific issues: gender and labour market attachment

A final issue to consider in preparation for model estimation is the variation in labour market attachment between men and women in this BCS sample. One of the primary covariates that measures labour market attachment for this sample is employment status, which includes response categories that are considered 'out of the labour market' such as those who are looking after the home and those who are sick/disabled. Figure 8 illustrates that across the survey period between 60% and 70% of total sample members report being in full time work from age 21 onwards, indicating a relatively successful transition to employment by age 21. As respondents age there is a higher proportion of sample members in part time work, reaching around 20% of the sample by age 42. The share of respondents out of the labour market increases to around 15% percent in the respondents' early to mid-30s, perhaps due to respondents who leave full time work as they have children.

Figure 8: Economic activity status age 21-42, total BCS sample



When economic activity status is explored by gender there is distinct variation in the proportion of males and females in each of the categories, shown in Figures 9 and 10. Figure 9 shows the percentage of females in full time employment decreasing with age while the share of those in part time work increases, likely due to women in the sample leaving full time work during their childbearing years. The share of women who are out of the labour market altogether reaches a peak of around 21% at age 34, with the majority of that group looking after the home. Males in the sample have much lower incidence of status change throughout the survey period (Figure 10). Unlike females in the sample, at age 21 over 80% of men report being in full time work, increasing to around 95% from age 30 onwards[40]. Viewed together, it becomes apparent that females in the sample are decreasing their labour market attachment as the household size grows in their 30s: a phenomenon that will be explored in the upcoming models with an interaction term on household size and gender. It is valuable to keep these labour market trends in mind before analysing any wage or labour market data by gender: it is expected that in both of the outcome models females will have lower wages and lower work intensity because of the higher proportion who are in part time work or who are out of the labour market, and also because of the strong labour market attachment of males in the sample from age 21.

[40] There is a reporting discrepancy in the age 21 survey in particular when the data for this covariate, employment status, is compared to the reporting for usual weekly hours of work per week (detailed in Chapter 4.5); there is a higher percentage of men who report being in full time work (around 75%) than the percentage of men who report over 30 hours of work per week at age 21 (50%). The comparison of these covariates in the subsequent surveys do not see the same discrepancies in proportions, which suggests there may be an issue with respondents at the age 21 survey over-reporting full time work status or not having as high of 'usual' weekly hours to report.

Figure 9: Economic activity status age 21-42, BCS sample males

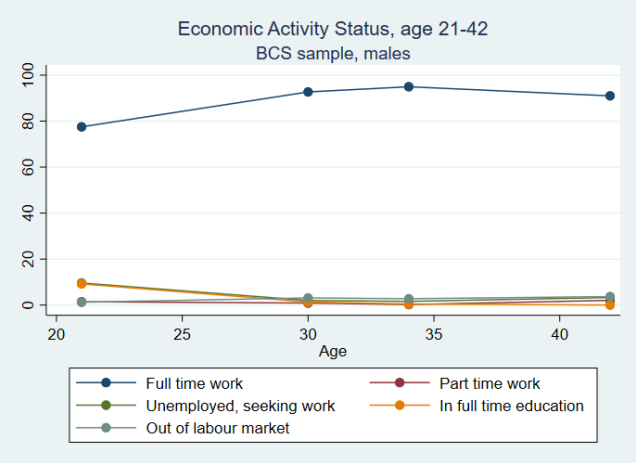
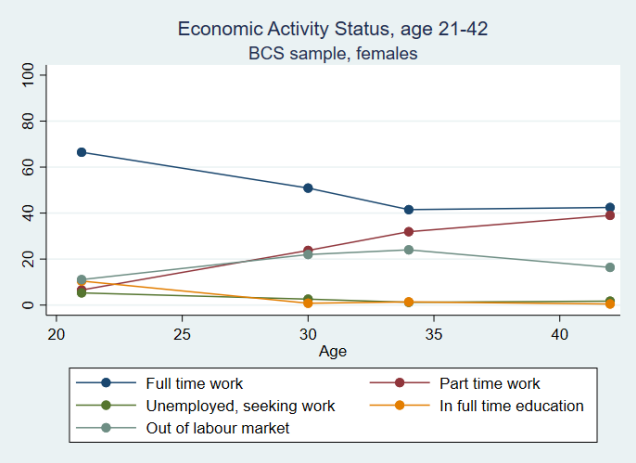


Figure 10: Economic activity status age 21-42, BCS sample females

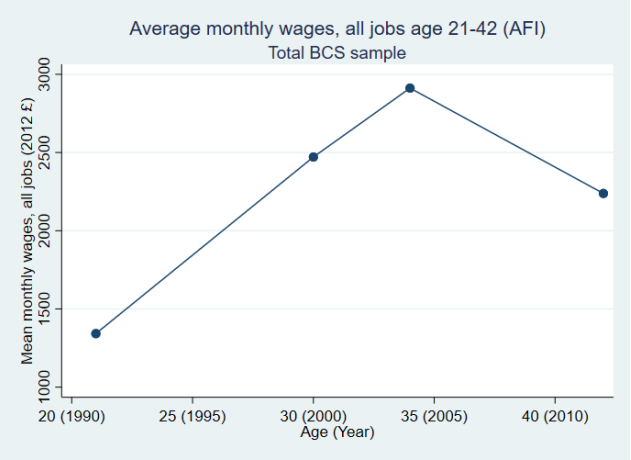


4.2 BCS Monthly Wages Measure and Descriptives

Description of outcome measure

The first component of the concept of economic independence measures individual performance in the labour market via wage income. In the BCS cohort the measure used is gross monthly wages at all jobs, created by scaling up the measure of gross weekly pay at all jobs to a monthly measure (adjusted for inflation [AFI] to 2012 £). This measure is the only individual measure of employment income provided in all of the survey waves, although the measure does have some drawbacks. Perhaps the most notable drawback is that for respondents who are in seasonal work during the survey period they may not be able to accurately estimate their weekly pay depending on their employment status at the time. However, based on the information provided on employment status in Figure 8, most of the respondents from age 21 onwards are in either full time or part time work so would likely be able to provide an accurate estimate of weekly pay. In each of the three regression models the discussion is introduced by exploring the outcome measure in descriptive figures for the whole sample by both gender and parenting status at age 21.

Figure 11: Average monthly wages, total BCS sample (AFI)



The average monthly wage trend in Figure 11 from age 21 to age 34 is steep and linear as expected, although average monthly wages for the total sample decrease notably from around £2,800/month at age 34 to £2,400/month at age 42. This is is likely the result of a period effect, as the effects of the global recession depressed wages for all UK workers in the early 2010s; the results for this sample therefore are consistent with national trends in the period.

The previous figures detailing employment status showed divergent employment patterns between men and women, particularly from age 30 onward. This is reflected in divergent wage patterns for this sample, illustrated in Figure 12, where women in the sample exhibit far lower average monthly wages and slower wage growth, which becomes more prominent after the youth period. It is likely that in the upcoming models of monthly wages the effect sizes on the female covariates will be negative, although it will be valuable to consider these results after controlling for employment status.

Figure 13 shows that although average wages for those who are young parents (around 10% of the sample) are lower than those who are not parents at age 21 at all time points, the pattern of wage growth differs quite dramatically for each group. Wages for those who are not young parents rise sharply from age 21 to age 34 only to decrease sharply at age 42 (consistent with the trend of the overall sample in Figure 11), while average wages for those who were young parents rises slowly but steadily from age 21 to 42. It is notable that the group of young parents who are in the labour market do not seem to exhibit the same steep downward wage trend at age 42; this may be because this group had 'less to lose' as a result of the recession than the larger group of non-young parents, so their average wages were not as strongly affected. This figure then may not be entirely suggestive of a 'scarring' effect of young parenting for wages over the course of the survey, given that average wages rise and wage trends are not nearly as volatile for the young parent group members who are in the labour market. However, it is important to bear in mind that there may be a group of young parents who are not in the labour market and therefore do not report wages, which is not captured in this figure.

Figure 12: Average monthly wages, BCS sample by gender (AFI)

Figure 13: Average monthly wages, BCS sample by parenting status at 21 (AFI)

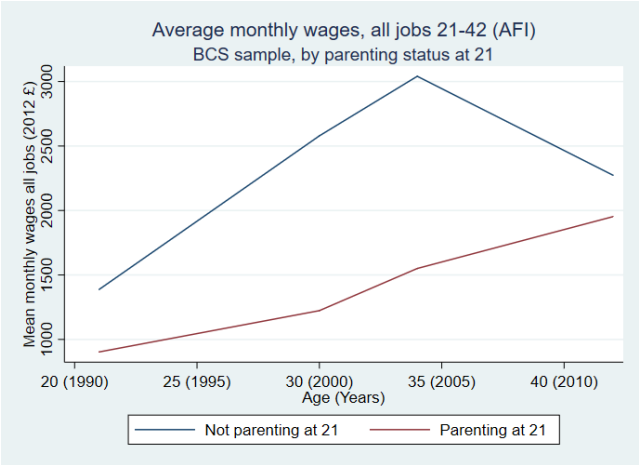
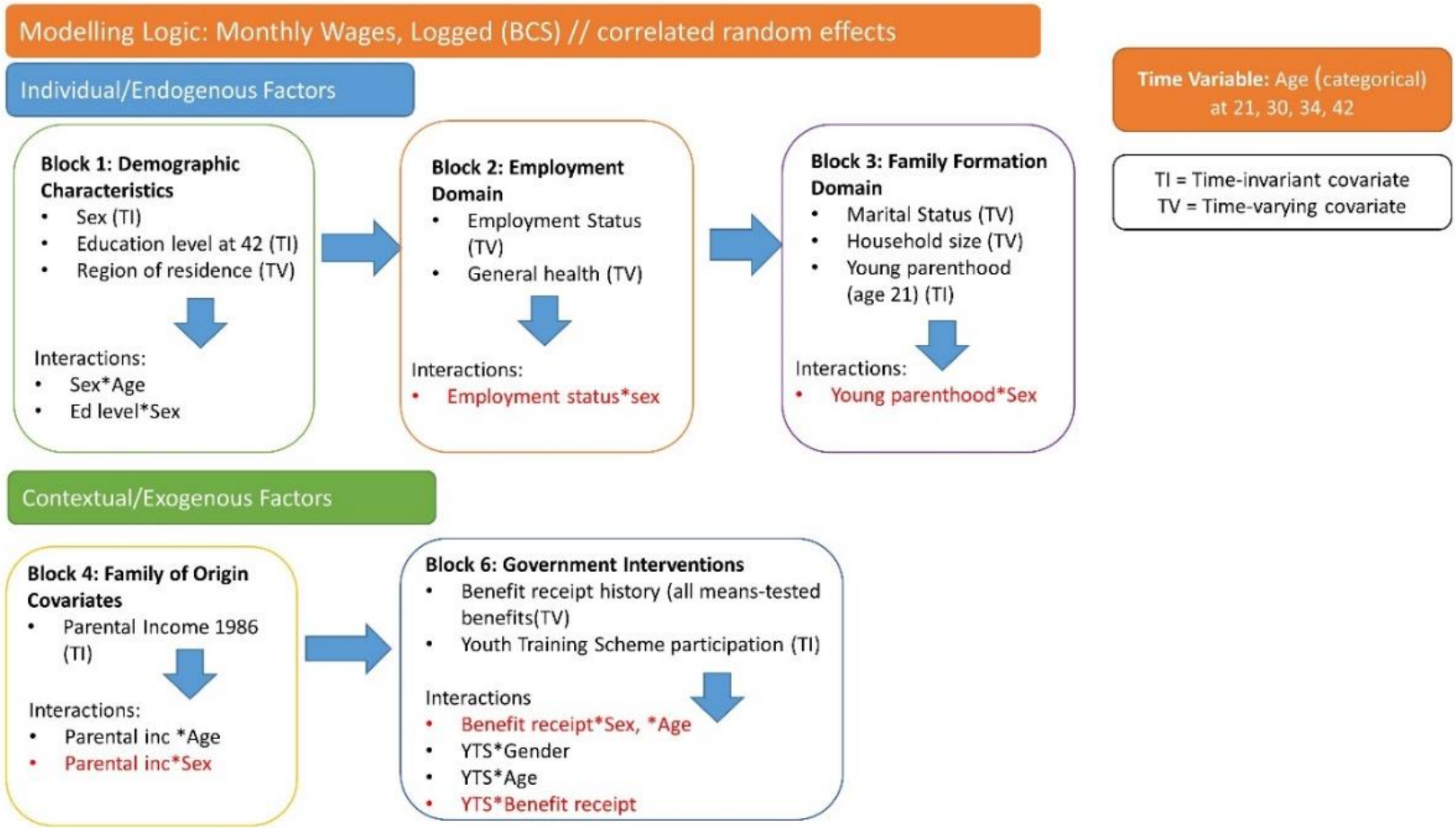


Figure 14: Modelling Logic, BCS Logged Monthly Wage Income (Correlated Random Effects Model)



4.3 Regression Results: BCS Monthly Wage Income, Correlated Random Effects Model

Block 1: Demographic characteristics (Table 6)

In every longitudinal model is it valuable to understand how the measurement of time affects the outcome variable. In this case the values on the time variable age identify the trend in wage growth as respondents move from the youth period into adulthood. Wage growth increases as respondents age, with positive covariates at every age compared to wages at age 21. The age effect size increases slightly as more covariates are added to the model. The second effect to consider is the effect of gender on wages, which shows -0.26 lower logged wages for females by the Block 5 iteration even as labour market experiences are controlled for; suggesting a systematic effect of gender on wages. Finally, the third notable covariate in Block 1 is education level, which shows that respondents with A-level qualifications and above have significantly higher wages than those with no qualifications, although the effect sizes are reduced with the inclusion of both parental income in Block 4 and benefit receipt in Block 5.

Block 1 interactions (Table 7)

The first interaction term in Block 1 is included to determine whether the effect of education on wages differs between men and women. The positive coefficients on each of the interaction terms at all education levels for females indicates that higher levels of education have a more positive impact on female wages, with positive and significant coefficients for those with Higher qualifications and degree-level qualifications. Here, a degree-level qualification for women increases logged wages by 0.64 compared to the effect of the same education level when men and women are considered together (given in the main effect).

The second interaction term of age and gender investigates whether the impact of age on a wage trajectory differs between men and women; or more broadly if 'growing up' necessarily leads to higher wages for both males and females in the same way. The negative interactions on the age and female covariates indicate that women do not experience the same amount of positive impacts on their wages as they age. When the effect sizes of age are largest at age 42, the effect size of age for women is -0.52 less than

that of the overall age effect estimation, and indicates that wage growth is not nearly as strong for females.

Block 2: Employment Domain (Table 6)

The second block of covariates is used to capture experiences in the employment domain and to ensure that employment status is controlled for as further covariates are added in Blocks 3 through 5. As expected, those in part time work have wages much lower than respondents in full time work, such that in the final Block 5 main effect iteration those in part time work have logged wages -0.91 lower than those in full time work. Although the other employment status categories do have estimated coefficients (for respondents who report perhaps part time wages while primarily in full time education), it is most valuable to look at the part time work coefficient, as those in all other employment status categories only have any reported wage information at age 21[41]. Because employment status will provide relatively predictable results for this outcome (e.g. full time workers have higher monthly wages) it is best to consider employment status as a control variable to more appropriately estimate effect sizes for factors like gender and subsequent covariates related to employment. The other covariate in this block, general health, was not significant and is not is not carried forward into further model iterations.

Although the interaction term of employment status and gender was tested for in Block 2, the insignificant value indicates that the impact of employment status on wages does not differ between men and women.

Block 3: Family Formation Domain (Table 6)

Marital status is the only covariate that is significant when added as a main effect in Block 3, and reports married respondents with higher average wages than respondents who are not married, although the effect is small at 0.07. However, once benefit receipt is added to the model in Block 5, there is no longer a significant difference in wages between those who are and are not married, and suggests that benefit receipt captures some of the difference in wage outcomes between these two groups. Household size is not found to be a significant covariate in the model of wages and perhaps may be a more notable driver for the work intensity outcome, with the hypothesis being that household size does not impact

[41] The effects of other employment status categories are italicised in Table 4 and all other subsequent regression tables for the BCS sample.

how much one earns but rather how much one engages in the labour market. Young parenting in this model is not found to be a signficant factor in wage trajectory either, with no significant difference in wages once demographic and labour market factors are controlled for. Because young parents interact with the benefit system in higher proportions the young parenthood covariate is carried forward in all iterations; however, controlling for benefit receipt in the Block 5 iterations does not notably change the results on this covariate.

Block 3 interactions (Table 7)

Although the young parenthood main effect was insignificant, it may be that young parenthood is significant only for one gender group, tested with a young parenthood and gender interaction term. The insignificant interaction term indicates that the impact of young parenthood on wages is similar for males and females. This interaction term was brought forward in Block 5 preliminary models to test whether benefit receipt influenced this factor; however, inclusion of this interaction term in Block 5 was not significant and therefore this iteration is not included in the main results of Table 4.

Block 4: Parental Background Characteristics (Table 6)

The main effect results for the parental income covariate are as expected on the wage outcome. Those who are from households from quintiles 4 and 5 have significantly higher wage trajectories, with wages 0.21 higher (Q4) and 0.34 higher (Q5) than those from the least affluent families. The results for the missing category of respondents in the wage model shows effect sizes between respondents in quintile 1 and quintile 2 (coeff = 0.14), and indicates again that these respondents are from families somewhere in the middle to low part of the parental income distribution.

Block 4 Interactions (Table 7)

The relationship between a more affluent family of origin and higher wage outcomes is well-researched, and social mobility research in particular confirms the persistence of parental background as a factor in a myriad of economic outcomes (reviewed in Chapter 2). For this type of life course research it is also valuable to determine if parental background is a static feature of one's demographic profile or if the impacts of parental background change with age. This is investigated using an interaction term on parental income and age, which is significant (Table 7). The positive interaction coefficients at age 30 and older for

quintiles 4 and 5 indicate that the difference in wages between parental income groups widen as respondents age. In this case, parental background not only is a significant factor in one's wage trajectory overall, but it is associated with a larger variation in wages between these groups as respondents age.

Block 5: Government Interventions (Table 6)

After controlling for demographic factors, youth transition experiences, and parental background, the final block of covariates measures government interventions, the covariates of interest. The first Block 5 main effects iteration (5a) includes the covariate measuring any benefit receipt, and the second Block 5 iteration (5b) adds the covariate measuring Youth Training Scheme participation. The coefficient on the any benefit receipt covariate is significant and negative in iterations 5a and 5b (coeff = -0.14) and indicates that benefit receipt negatively impacts one's wage trajectory even with controls for some of the more well-known factors in wage growth and variation. The addition of the YTS covariate in 5b is also significant as an independent effect, and reports that those who have YTS participation have logged wages -0.15 lower than those without YTS participation. These results are consistent with previous research on YTS participant outcomes, indicating that YTS experience is not associated with higher wages in the long term.

The inclusion of government intervention covariates also mediates some of the other covariates that are significant to wages, reducing the positive effect sizes of the three highest education qualifications and mediating the independent effects of parental income. The less negative result on parental income in Block 5 models suggests that some of the wage differences between respondents from lower parental backgrounds and those from higher income levels are captured by controlling for benefit receipt.

Block 5 interactions (Table 8)

An interaction term of benefit receipt and gender is included to determine whether the negative impacts of benefit receipt differ between men and women. More pointedly, this interaction seeks to investigate if female wage outcomes are impacted more notably by benefit receipt than wage outcomes for males. The insignificant interaction term here indicates that benefit receipt is not moderated by gender and that the impact of benefit receipt can be considered similar for both men and women. An interaction term of benefit receipt and age is also included to determine whether benefit receipt has different impacts

on one's wages depending on the age it was received, which was also found to be insignificant.

The final two interaction terms with the Youth Training Scheme covariate are included for gender and age. In this case, there is a significant difference in the impact of YTS participation by gender. The negative coefficient on the YTS and Female interaction (coeff = 0.12) does suggest that female who participate in YTS are more negatively affected in their wages by participation. The negative wage impacts of this government intervention therefore seem to be concentrated among females in the sample. The significant interaction between YTS and age indicates that the negative impacts of YTS appear to worsen with age, with significant additive negative statistical effects at age 34 (coeff = -0.17) and age 42 (coeff = -0.14).

Summary

As was foregrounded by the descriptive figures, gender is indeed a prominent factor in the wage trajectory for the BCS cohort and shows consistently lower wages for females in the sample even as all other covariates are included. The women in the BCS cohort also do not experience the same increases in wage growth as they age; unlike men in the sample, the experience of 'growing up' does not necessarily correspond to higher wages. The impact of young parenthood was not found to have a significant impact on BCS cohort wages even when benefit receipt is included in the model, which confirms that this experience is not associated with worse wages for this cohort. Rather, a more prominent factor on wages and one that may be more influential in the long term for all BCS respondents is parental background, which shows much higher wages for those from higher socioeconomic groups; the impacts of which widen as respondents age.

The experience of benefit receipt shows a significant and negative relationship to BCS respondent wage trajectories for those who receive them, however the impact was not found to vary between men and women. Benefit receipt was also not found to have differing impacts on wages based on the respondent's age, which suggests that the timing of benefit receipt does not play a major role in individual wage outcomes. The other government intervention, participation in a Youth Training Scheme, was found to be associated with worse wage outcomes, an impact that increases which increases with age and with more negative wage penalties for female participants than male participants.

Table 6: Correlated Random Effects Models of logged monthly wages 1970 British Cohort Study, main effects (Blocks 1- 5)

	Block 1		Block 2		Block 3		Block 4		Block 5a		Block 5b	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Age (21)												
30	0.53***	(16.40)	0.59***	(19.71)	0.56***	(17.90)	0.58***	(18.9)	0.59***	(19.17)	0.58***	(19.11)
34	0.76***	(22.36)	0.85***	(27.22)	0.83***	(25.02)	0.84***	(25.47)	0.85***	(25.77)	0.85***	(25.77)
42	0.97***	(30.10)	1.10***	(36.33)	1.08***	(33.52)	1.08***	(33.53)	1.10***	(33.43)	1.10***	(33.42)
Female	-0.56***	(-17.13)	-0.25***	(-7.84)	-0.27***	(-8.10)	-0.25***	(-7.84)	-0.25***	(-7.89)	-0.26***	(-8.44)
Educ (No quals)												
CSE/NVQ 1	0.15	(1.71)	0.07	(0.92)	0.08	(1.03)	0.06	(0.86)	0.08	(1.0)	0.07	(0.95)
O level/NVQ 2	0.06	(0.87)	0.03	(0.49)	0.04	(0.67)	0.03	(0.48)	0.04	(0.56)	0.04	(0.59)
A level/NVQ 3	0.23**	(3.01)	0.17*	(2.53)	0.17*	(2.57)	0.15*	(2.19)	0.14*	(2.16)	0.13*	(2.02)
Higher Qs/NVQ 4	0.42***	(5.72)	0.32***	(5.04)	0.32***	(5.02)	0.30***	(4.65)	0.28***	(4.43)	0.26***	(4.08)
Degree +/NVQ 5	0.54***	(5.93)	0.42***	(5.32)	0.43***	(5.34)	0.38***	(4.8)	0.35***	(4.47)	0.32***	(4.04)
Region (London)												
Rest of England	-0.14	(-1.90)	-0.19**	(-2.89)	-0.17**	(-2.58)	-0.19**	(-2.87)	-0.19**	(-2.91)	-0.19**	(-2.86)
Wales & Scotland	-0.26	(-1.65)	-0.32*	(-2.39)	-0.29*	(-2.09)	-0.31*	(-2.25)	-0.30*	(-2.16)	-0.30*	(-2.23)
Region (mean)	*-0.09*	*(-1.00)*	*-0.05*	*(-0.69)*	*-0.06*	*(-0.84)*	*-0.03*	*(-0.42)*	*-0.03*	*(-0.39)*	*-0.01*	*(-0.16)*
Emp Status (FT)												
PT work			-0.93***	(-27.18)	-0.92***	(-25.98)	-0.93***	(-26.96)	-0.91***	(-26.02)	-0.91***	(-25.98)
Unemployed			*-0.20**	*(-2.32)*	*-0.21**	*(-2.41)*	*-0.21**	*(-2.35)*	*-0.07*	*(-0.69)*	*-0.06*	*(-0.64)*
FT Ed			*-0.93****	*(-9.54)*	*-0.89****	*(-9.00)*	*-0.93****	*(-9.50)*	*-0.92****	*(-9.42)*	*-0.93****	*(-9.51)*
Home			*-0.24**	*(-2.33)*	*-0.24**	*(-2.23)*	*-0.25**	*(-2.33)*	*-0.17*	*(-1.52)*	*-0.18*	*(-1.64)*
Training			*-0.35*	*(-0.62)*	*-0.35*	*(-0.61)*	*-0.38*	*(-0.63)*	*-0.17*	*(-0.30)*	*-0.09*	*(-0.16)*
Sick/Disabled			*-0.25*	*(-0.76)*	*-0.33*	*(-1.01)*	*-0.31*	*(-0.94)*	*-0.33*	*(-1.02)*	*-0.28*	*(-0.87)*
Emp Stat (mean)			*-0.06***	*(-2.90)*	*-0.06***	*(-2.87)*	*-0.06****	*(-3.04)*	*-0.03*	*(-1.55)*	*-0.03*	*(-1.59)*
Health (Excellent)												
Good			0.02	(0.92)								
Fair			-0.01	(-0.16)								
Poor			0.05	(0.57)								
Health (mean)			*-0.12***	*(-3.19)*								
Married					0.07*	(2.37)	0.07*	(2.38)	0.06	(1.89)	0.06	(1.83)
MarStat (mean)					*0.06*	*(1.14)*	*0.01*	*(0.12)*	*-0.01*	*(-0.06)*	*0.01*	*(0.17)*
Household Size					-0.02	(-1.84)						
HH size (mean)					*-0.03*	*(-1.11)*						

Young parenting					-0.04	(-0.73)	-0.05	(-0.98)	-0.04	(-0.71)	-0.03	(-0.57)
Parent Inc (Q1)												
Quintile 2							0.08	(1.67)	0.08	(1.58)	0.07	(1.49)
Quintile 3							0.18***	(3.38)	0.16**	(3.13)	0.14*	(2.76)
Quintile 4							0.26***	(3.70)	0.24***	(3.50)	0.21**	(3.04)
Quintile 5							0.40***	(4.75)	0.37***	(4.37)	0.34***	(4.06)
Missing							0.14**	(2.85)	0.13**	(2.76)	0.13**	(2.68)
Benefit recipient									-0.14**	(-2.98)	-0.14**	(3.05)
Ben recd (mean)									*-0.19**	*(-2.12)*	*-0.17**	*(-1.98)*
YTS participant											-0.15***	(-4.90)
Intercept	6.84***	(44.61)	7.11***	(47.84)	6.96***	(44.49)	6.73***	(43.42)	6.74***	(43.67)	6.77***	(44.26)
Between-var	0.32***	(18.04)	0.27***	(17.55)	0.28***	(17.71)	0.26***	(16.74)	0.26***	(16.61)	0.25***	(16.10)
Within-var	0.58***	(58.14)	0.50***	(58.12)	0.50***	(57.70)	0.50***	(57.71)	0.50***	(57.73)	0.50***	(57.83)
Observations	2552		2550		2514		2514		2514		2514	2514
Cases	881		881		872		872		872		872	872

Displayed are the coefficients from a correlated random effects model of logged monthly wages with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.05

Table 7: Correlated Random Effects Models of logged monthly wages 1970 British Cohort Study, interaction effects (Blocks 1- 4)

	Educ *Gender Coeff	t	Age *Gender Coeff	t	YParent *Gender Coeff	t	Parental Inc*Age Coeff	t
Age (21)								
30	0.53***	(16.39)	0.74***	(15.34)	0.56***	(17.90)	0.41***	(4.83)
34	0.76***	(22.26)	1.02***	(20.32)	0.83***	(25.01)	0.72***	(7.39)
42	0.97***	(30.06)	1.28***	(25.98)	1.08***	(33.51)	1.06***	(12.51)
Female	-0.92***	(-6.43)	-0.25***	(-5.13)	-0.27***	(-7.95)	-0.25***	(-7.74)
Age*Gender								
30 * Female			-0.35***	(-5.50)				
34 * Female			-0.46***	(-6.79)				
42 * Female			-0.52***	(-8.20)				
Educ (No qual)								
CSE/NVQ 1	-0.07	(-0.46)	0.16	(1.82)	0.09	(1.03)	0.07	(0.83)
O level/NVQ 2	-0.17	(-1.29)	0.08	(1.05)	0.04	(0.67)	0.03	(0.52)
A level/NVQ 3	0.06	(0.49)	0.24**	(3.18)	0.18*	(2.57)	0.15*	(2.29)
Higher Qs/NVQ 4	0.14	(1.10)	0.43***	(5.92)	0.33***	(5.02)	0.30***	(4.67)
Degree+/NVQ 5	0.11	(0.70)	0.56***	(6.15)	0.43***	(5.34)	0.37***	(4.63)
Educ*Gender								
CSE*Female	0.32	(1.75)						
O level*Female	0.34*	(2.15)						
A level*Female	0.23	(1.42)						
Higher Q*Female	0.43**	(2.84)						
Degree*Female	0.64***	(3.32)						
Region (London)								
Rest of England	-0.14	(-1.86)	-0.16*	(-2.16)	-0.17**	(-2.58)	-0.19**	(-2.88)
Wales & Scotland	-0.28	(-1.77)	-0.28	(-1.81)	-0.29*	(-2.09)	-0.30*	(-2.20)
Region (mean)	*-0.09*	*(-1.00)*	*-0.08*	*(-0.84)*	*-0.06*	*(-0.83)*	*-0.30*	*(-0.43)*
Emp Stat (FT)								
PT work					-0.92***	(-25.96)	-0.92	(-26.80)
Unemployed					*-0.21**	*(-2.41)*	*-0.23*	*(-2.56)*
FT Ed					*-0.89****	*(-9.00)*	*-0.90*	*(-9.10)*
Home					*-0.24**	*(-2.18)*	*-0.21*	*(-1.94)*
Training					*-0.35*	*(-0.61)*	*-0.40*	*(-0.70)*
Sick/Disabled					*-0.33*	*(-1.01)*	*-0.31*	*(-0.95)*
Empstat (mean)					*-0.06***	*(-2.85)*	*-0.07*	*(-3.24)*

Household size					-0.02	(-1.84)		
HH size (mean)					*-0.03*	*(-1.11)*		
Married					0.07*	(2.37)		
Married*Female								
MarStat (mean)					*0.06*	*(1.15)*		
*MarStat*Gender*								
Young parenting					-0.03	(-0.33)	-0.05	(-1.00)
YParent*Female					-0.01	(-0.08)		
Parental Inc (Q1)								
Quintile 2							0.03	(0.36)
Quintile 3							0.12	(1.52)
Quintile 4							0.02	(0.15)
Quintile 5							0.07	(0.53)
Missing							0.08	(1.10)
Parental Inc*Age								
Q2*Age 30							0.15	(1.45)
Q3*Age 30							0.18	(1.75)
Q4*Age 30							0.44**	(3.14)
Q5*Age 30							0.43*	(2.50)
Missing*Age 30							0.17	(1.75)
Q2*Age 34							0.11	(0.98)
Q3*Age 34							0.14	(1.23)
Q4*Age 34							0.32*	(2.15)
Q5*Age 34							0.42*	(2.30)
Missing*Age 34							0.14	(1.25)
Q2*Age 42							0.02	(0.21)
Q3*Age 42							-0.03	(-0.29)
Q4*Age 42							0.32	(2.30)
Q5*Age 42							0.58***	(3.41)
Missing*Age 42							-0.003	(-0.03)
Constant	7.08***	(39.48)	6.63***	(43.03)	6.96***	(44.24)	6.83***	(46.34)
Between-Var	0.317***	(17.45)	0.330***	(18.78)	0.28***	(17.71)	0.27***	(17.12)
Within-var	0.58***	(58.07)	0.57***	(58.14)	0.50***	(57.50)	0.50***	(58.50)
Observations	2552		2552		2512		2552	
Cases	881		881		872		881	

Displayed are the coefficients from a correlated random effects model of logged monthly wages with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.05

Table 8: Correlated Random Effects Models of logged monthly wages 1970 British Cohort Study, interaction effects (Block 5)

	Benefit recd *Gender		Benefit recd *Age		YTS *Gender		YTS *Age	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Age (21)								
30	0.59***	(19.91)	0.62***	(20.10)	0.59***	(19.91)	0.62***	(17.39)
34	0.86***	(27.43)	0.88***	(26.60)	0.86***	(27.43)	0.92***	(24.63)
42	1.12***	(36.31)	1.18***	(34.91)	1.12***	(36.41)	1.17***	(32.28)
Female	-0.26***	(-7.37)	-0.26***	(-8.36)	-0.22***	(-6.22)	-0.26***	(-8.33)
Educ (No quals)								
CSE/NVQ 1	0.07	(0.91)	0.06	(0.85)	0.07	(0.90)	0.07	(0.93)
O level/NVQ 2	0.04	(0.59)	0.04	(0.62)	0.04	(0.59)	0.04	(0.65)
A level/NVQ 3	0.13*	(2.03)	0.13*	(2.05)	0.13*	(2.04)	0.14*	(2.07)
Higher Q/NVQ 4	0.25***	(4.05)	0.25***	(4.07)	0.25***	(4.07)	0.25***	(4.07)
Degree /NVQ 5	0.31***	(3.94)	0.31***	(3.92)	0.31***	(3.97)	0.31***	(3.91)
Region (London)								
Rest of England	-0.19**	(-2.89)	-0.20**	(-3.01)	-0.19**	(-2.89)	-0.19**	(-2.94)
Wales & Scotland	-0.30*	(-2.23)	-0.31*	(-2.27)	-0.31*	(-2.28)	-0.31*	(-2.28)
Region (mean)	*-0.01*	*(-0.13)*	*-0.01*	*(-0.08)*	*-0.01*	*(-0.07)*	*-0.01*	*(-0.10)*
Emp Stat (FT)								
PT work	-0.89***	(-25.90)	-0.89***	(-25.93)	-0.89***	(-25.88)	-0.89***	(-25.94)
Unemployed	*-0.05*	*(-0.51)*	*-0.19*	*(-1.58)*	*-0.05*	*(-0.53)*	*-0.06*	*(-0.64)*
FT Ed	*-0.94****	*(-9.61)*	*-0.93****	*(-9.53)*	*-0.94****	*(-9.62)*	*-0.91****	*(-9.32)*
Home	*-0.15*	*(-1.37)*	*-0.31**	*(-2.57)*	*-0.15*	*(-1.39)*	*-0.15*	*(-1.34)*
Training	*-0.08*	*(-0.14)*	*-0.37*	*(-0.65)*	*-0.06*	*(-0.10)*	*-0.14*	*(-0.26)*
Sick/Disabled	*-0.28*	*(-0.86)*	*-0.28*	*(-0.89)*	*-0.29*	*(-0.92)*	*-0.30*	*(-0.94)*
EmpStat (mean)	*-0.03*	*(-1.55)*	*-0.03*	*(-1.53)*	*-0.03*	*(-1.49)*	*-0.03*	*(-1.59)*
Parental Inc (Q1)								
Quintile 2	0.08	(1.56)	0.08	(1.58)	0.08	(1.58)	0.08	(1.55)
Quintile 3	0.14**	(2.86)	0.15**	(2.90)	0.15**	(2.91)	0.14**	(2.86)
Quintile 4	0.22**	(3.19)	0.22**	(3.20)	0.22**	(3.27)	0.22**	(3.17)
Quintile 5	0.35***	(4.17)	0.35***	(4.19)	0.35***	(4.23)	0.35***	(4.14)
Missing	0.13**	(2.82)	0.13**	(2.84)	0.14**	(2.86)	0.14**	(2.83)
Young parenting	-0.03	(-0.52)	-0.01	(-0.17)	-0.03	(-0.60)	-0.03	(-0.54)
Benefit recipient	-0.16	(-1.95)	-0.06	(-0.58)	-0.15***	(-3.34)	-0.15***	(-3.29)

BenRecd*Female	0.01	(0.08)						
*BenRecd*Gender*	*-0.05*	*(-0.32)*						
BenRecd (mean)	*-0.09*	*(-0.31)*	*0.57**	*(2.20)*	*-0.18**	*(-2.10)*	*-0.19**	*(-2.19)*
Ben Recd*Age								
Yes*30			-0.13	(-1.00)				
Yes*34			0.08	(0.59)				
Yes*42			-0.05	(-0.41)				
*BenRecd*Age*			*-0.02***	*(-3.11)*				
YTS participant	-0.15***	(-4.87)	-0.15***	(-4.93)	-0.08	(-1.91)	-0.06	(-1.43)
YTS*Female					-0.12*	(-1.99)		
YTS *Age								
Yes*30							-0.06	(-0.98)
Yes*34							-0.17**	(-2.76)
Yes*42							-0.14*	(-2.33)
Constant	6.78***	(48.46)	6.75***	(48.41)	6.75***	(48.04)	6.75***	(48.20)
Between Var	0.25***	(16.20)	0.25***	(16.23)	0.25***	(16.08)	0.25***	(16.27)
Within Var	0.50***	(57.93)	0.50***	(57.91)	0.50***	(57.93)	0.50***	(57.94)
Observations	2520		2520		2520		2520	
Cases	872		872		872		872	

Displayed are the coefficients from a correlated random effects model of logged monthly wages with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.05

4.4 BCS Work Intensity Measure and Descriptives

Description of outcome measure

The second individual measure in the UK case that comprises economic independence is work intensity, operationalised using a longitudinal ordinal variable with four categories: high, medium, and low work intensity and a category for those not in the labour market. This ordinal measure was created by transforming reported hours in the variable 'Usual weekly hours of work' (which includes overtime hours) into three categories and transforming those who reported no hours and who identify as looking after the home into the out of the labour market category. This enables the model to keep all cases in the dataset even if respondents do not report hours for one of the survey years, and therefore ensures that respondents who may move in and out of the labour market are not dropped from the sample. Because the measure counts those who do unwaged work in the household as 'zero', the model here measures waged work intensity. The ordinal categories with the corresponding weekly hours are as follows, and were guided at the lower end by the working hour thresholds for benefit programmes such as the Working Tax Credit:

0 = 'Not in employment', no hours reported
1 = 'Low work intensity', 1-16 hours/week reported
2 = 'Medium work intensity', 16-30 hours/week reported
3 = 'High work intensity', 30 + hours/week reported

The drawbacks to this individual measure of work intensity are relatively similar to those in the monthly wages measure, particularly as it relates to those in seasonal work. This group of respondents may have very different 'usual' hours of work per week, particularly at the first wave, and therefore depending on when the survey was taken results may vary widely. Employment status figures in the previous section again confirm that the majority of respondents are in full time work and are therefore not likely to have biased reporting on this measure; however, this may miss respondents who have variable hours throughout the year and who may report full time work but different 'usual' hours.

The following descriptive figures detail the trends in the underlying variable for the ordinal measure, usual weekly hours of work, by gender and parenting status in the same manner as was done for the monthly wages measure. There are also descriptive figures that detail trends in the percentage of respondents in each of the categories of the ordinal variable, both for the overall sample and for men and women. These figures are included to detail

respondents who are out of the labour market and would therefore not report usual weekly hours of work, as the mean usual weekly hours of work figures only include those who report hours.

Figure 15 shows that at age 21 the average usual weekly hours of work is high for both men and women, at around 40 hours/week for women and around 43 hours/week for men; suggesting that for those who do interact with the labour market the attachment is relatively strong in the youth period. After age 21 however, the results for men and women begin to diverge. Men's average weekly hours of work stay at or above 40 hours a week through the other survey years, while average female hours of work per week decline at each survey to around 30 hours per week at age 42. It is likely that women's average hours decrease after age 21 due to family formation factors in their 20s and 30s, suggested by previous research (reviewed in Chapter 2.2).

The second demographic characteristic is included to detail whether becoming a parent in the youth period stifles labour market attachment. At age 21 there is very little difference in the average weekly hours of work for both parenting and non-parenting sample members who are in the labour market; in fact, respondents who are parents at age 21 report slightly higher weekly hours of work on average. However, the group of parenting respondents have decreased hours on average at both the age 30 and age 34 survey periods to around 30 hours, below the average of the non-parenting group. While the difference in usual hours of work are notable during the respondent's 30s, the gap between usual hours closes at age 42 between these two groups. The lack of a systematic difference in hours of work between these two groups suggests that the experience of young parenting may not have as much of an impact on work intensity as a characteristic like gender. Therefore, the ordinal work intensity measure is explored in figures by gender rather than by young parenting status.

Figure 15: Usual weekly hours of work (mean), BCS sample by gender

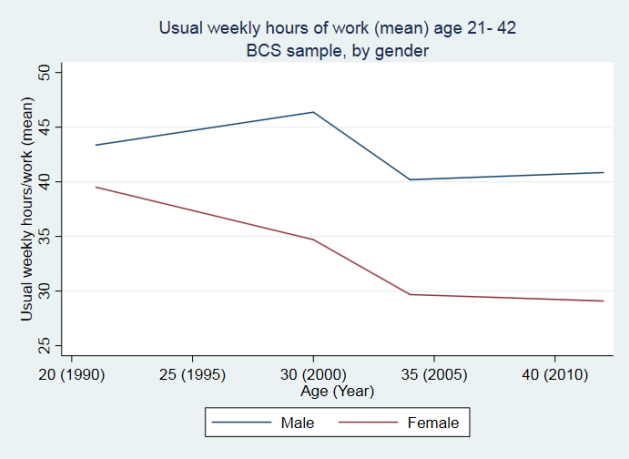
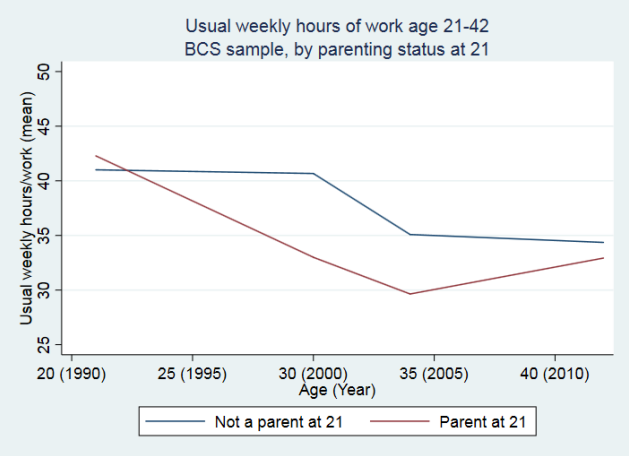
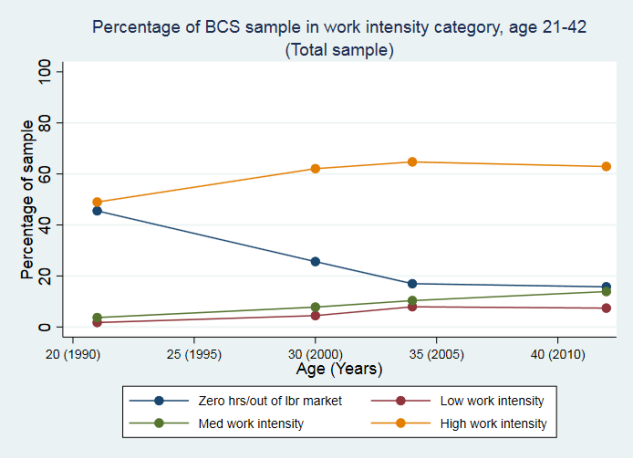


Figure 16: Usual weekly hours of work (mean), BCS sample by parenting status at 21



The ordinal work intensity variable, detailed in Figure 17 for the total sample, indicates that about half of cohort members report high work intensity and about half report that they are out of the labour market at age 21. This is likely due to those who are still in education and those who are unable to attach due to other reasons in the youth period. After age 21 there is slightly more variation in the percentage of those in each work intensity category; around 15% of the sample enter the labour market in some form after 21, and the percentage in the 'zero' category decreases to around 20%. The proportion of sample members who have high work intensity stays relatively consistent through the 30s to age 42, as does the proportion in the medium and low categories.

Figure 17: Percentage of sample in work intensity categories, total BCS sample



Figures 18 and 19 detail the distribution of men and women in each of the work intensity categories, and show distinctly different patterns of labour market attachment particularly after age 21. Among BCS men there is strong labour market attachment after age 21 to age 34, such that by 34 almost all of the male respondents are in the high work intensity category, with very few out of the labour market or in part time work. Among females in the sample there is much more variation in the percentage of women who are in each of the work intensity categories, particularly after age 30. Unlike the males in the sample, the percentage of females in high work intensity categories stays relatively consistent throughout the survey period, with around half of women in this group in full time work at any survey period. During their 30s females exhibit more movement between the lower work intensity categories and around 20% of females were out of the labour market at age 42. Based on the timing of these changes (during the childbearing years), it will again be valuable to investigate how family formation factors may impact each gender group differently.

Figure 18: Percentage of sample in work intensity categories, BCS males

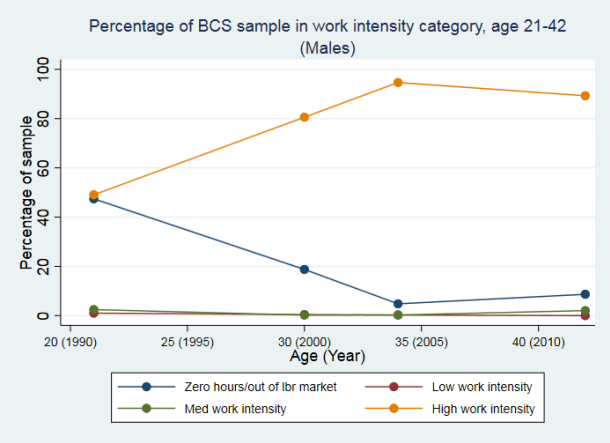


Figure 19: Percentage of sample in work intensity categories, BCS females

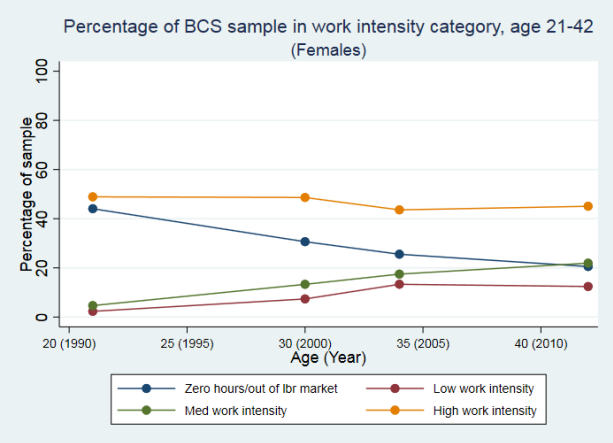
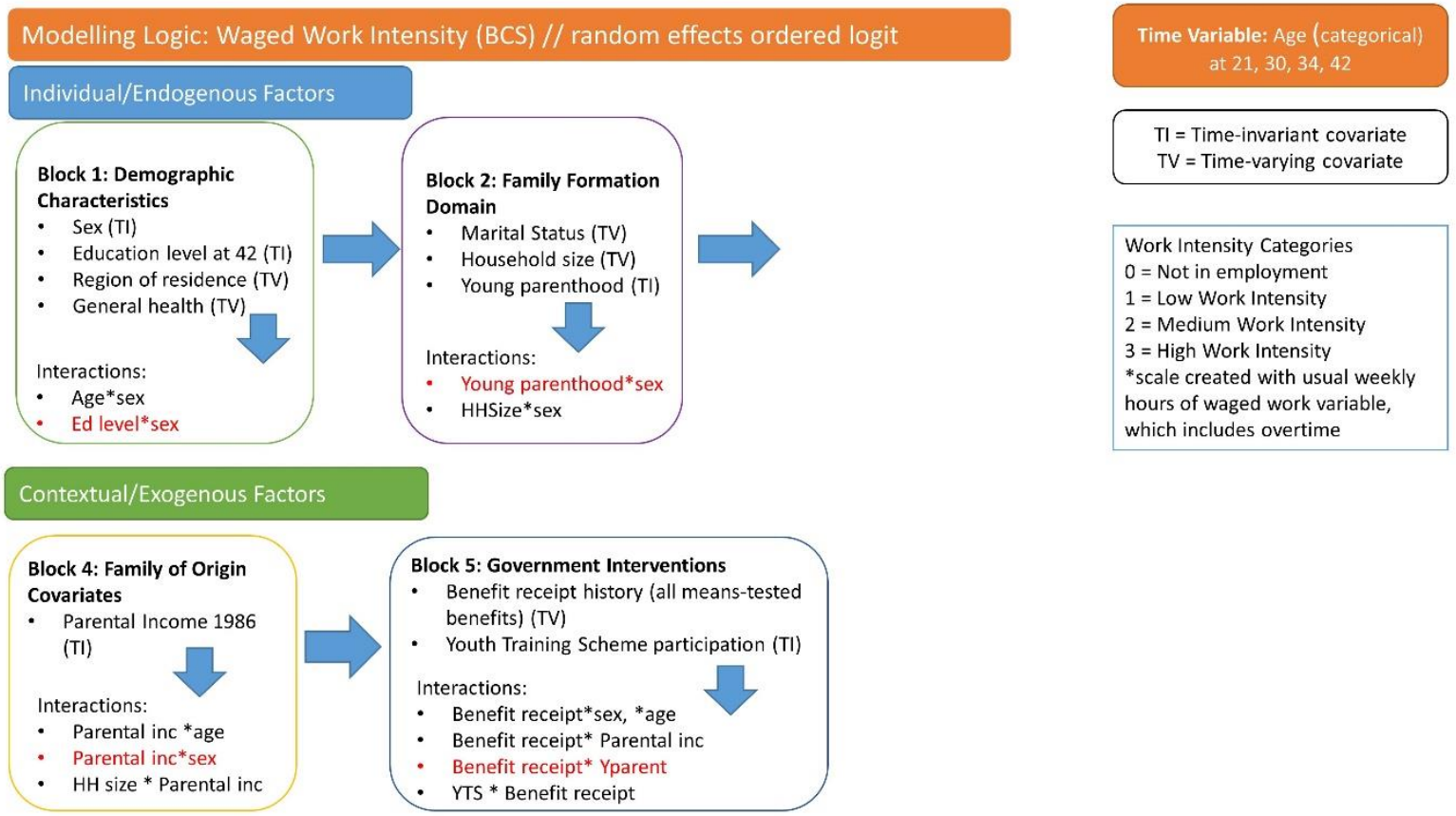


Figure 20: Modelling Logic, BCS Waged Work Intensity (RE Ordered Logistic Regression)



4.5 Regression Results: BCS Work Intensity, Random Effects Ordered Logistic Regression

As noted in Chapter 3, the regression tables for an ordered logit model are reported in odds ratios, and detail the difference in odds of being in a higher work intensity category compared to the group of respondents in the reference group (if the covariate is a categorical variable), or the increase or decrease in odds when a value of a continuous variable is increased by one unit. Odds ratios with results above 1 indicate higher odds, odds below 1 indicate lower odds, and odds ratios near 1 indicate that the odds are similar (odds near 1 will likely not report statistical significance).

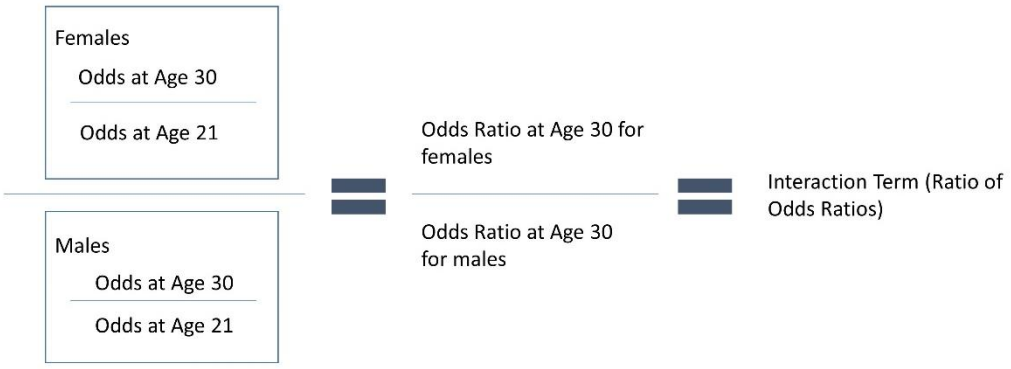
Block 1: Demographic Characteristics (Table 9)

The age covariate reports greater odds of being in a higher work intensity category at every age compared to age 21. However, given what is known about the trends in work intensity between males and females, it will be important to investigate if and how the impact of age differs for each gender using an interaction term. The independent effect of gender in Block 1 shows negative odds ratios for females (OR = 0.28) and remains relatively consistent as more covariates are added, indicating that the odds of being in a higher work intensity category are much lower for females than males. This confirms a systematic effect of gender on work intensity for this sample. As with the wages model, the education covariates also indicate higher odds of being in a high work intensity category for those with higher qualifications.

Block 1 interactions (Table 10)

The interaction terms for a categorical by categorical interaction in an ordered logit model are slightly more challenging to interpret than in the correlated random effects model; for example, the interaction term for age 30 and female represents the ratio of odds ratios on the covariate of interest (or the focal independent variable) and the moderating variable (Jaccard 2001). In this case, the focal independent variable is age, moderated by gender. The figure below is adapted from Jaccard (2001) and aims to illustrate how the Age 30 and female interaction term should be interpreted.

Figure 21: Interpreting a categorical by categorical interaction in ordered logistic regression



The significant interaction term on the Age 30 and Female category is the factor by which the odds ratio of the age 30 main effect for gender = 0 (males) must be multiplied to get the odds ratio on age 30 for females in the sample (working backwards from the interaction term in Figure 21). In Table 10 the odds ratio main effect on Age 30 for males is 7.55; when multiplied by the interaction term of 0.18 on Age 30*Female, the odds ratio between Age 21 and Age 30 females is 1.38 (in bold). The interaction term odds ratio below one suggests that for females there will be far less positive impacts of age on their work intensity than for males. The values in bold in the interaction iterations in Table 7 are the odds ratios for Females between age 21 and the other ages in the survey; this notation stays consistent throughout all the other interaction tables in regression tables with interaction terms.

Viewing the odds ratios for the male and female respondents in tandem, the large odds ratios for males indicates that as they age their odds of being in a higher work intensity category increase by a very large factor, most notable in the odds ratios between age 21 to age 34 (seen in the age main effect). The odds ratios for females on this covariate (in bold), however, are not nearly as large; although indeed the odds of being in a higher work intensity group increase with age for women. This suggests that there is a gender gap in work intensity that emerges particularly as respondents age. It is also valuable to look at the gender main effect in this interaction model, which details the differences among men and women's work intensity when at 21 (the age reference category); an insignificant coefficient here indicates there is no significant difference in work intensity odds between men and women at age 21.

Block 2: Family Formation (Table 9)

Marital status was not found to be a significant factor in respondent's work intensity even at this early stage of the model. Household size however is significant, with an odds ratio of 0.66; this indicates that for each one-unit increase in a household size the odds of being in a higher work intensity category decrease by a factor of 0.66. This effect size is not particularly surprising given what is known about how labour market decisions are affected when a family increases in size. However, it is likely that the impact of household size will vary by gender, as previous research on female labour market attachment shows that women are more likely to decrease their hours of work or leave the labour market altogether when children are born (even if only for a short time) (Blau & Khan 2017). This phenomenon will be tested for in an interaction of household size and gender in the next subsection.

The final main effect of the family formation covariates is young parenthood. When added to the model as a main effect there was no statistically significant difference in the odds of being in a higher work intensity category between the two parent types. However, the effect size of 1.22 does indicate that young parents may have higher odds of being in a higher work intensity category, which may change given other covariates that are known to interact with the experience of young parenthood (like benefit receipt). Because of these issues the young parenthood covariate is carried forward to all iterations as was done in the wages model.

Block 2 interactions (Table 10)

The young parenthood and gender interaction term is not significant in this model, and indicates that the impact of young parenthood on work intensity does not differ by gender. This interaction term was also included in Block 4 models but was still found to be insignificant. This result is perhaps surprising given how this 'risky' transition experience has been found in previous research to scar both wages and labour market attachment in other samples; however, for the sample of BCS females and males the negative impact are not present.

The interaction term on household size and gender is significant, and its effects confirm that growth in household size negatively impacts the odds of being in a higher work intensity category more for women than for men (interaction term OR = 0.67). The odds

ratio for men is 0.86 while the odds ratio for women on household size is 0.58, which is consistent with what is known about how female labour market participation changes when children are born and household size increases.

Block 3: Parental Background (Table 9)

The parental background covariate indicates that only respondents in quintile 2 have significantly different odds of being in a higher work intensity category than those in quintile 1 (OR = 1.54). Although the odds ratio effect sizes are above 1 on each of the other quintile groups (indicating higher odds), the results are not statistically significant. When added as a main effect, then, parental income does not significantly impact a respondent's work intensity. Taken together with the results from the wages models, this suggests that a respondent's parental background does not impact how much one works, but rather the economic returns from work.

Block 3 interactions (Table 10)

Given the results of the parental background and age interaction in the wages model it is valuable to determine if the impact of one's parental income is moderated by age in this model as well. The significant interaction terms on parental income quintile and age for respondents at ages 30 and older for those in quintiles 3 and above indicate statistically significant differences in work intensity among parental income quintile groups as respondents age. The positive interaction terms indicate that parental income becomes a more prominent factor in one's work intensity outcomes with age. This results in larger odds ratios between those from higher income quintiles and those from quintile 1 at older ages: for example, the odds of being in a higher work intensity category for respondents from quintile 4 is 2.18 times that of quintile 1 respondents at age 42. The differences between much higher quintiles and quintile 1 are not apparent when respondents are 21, where there is only a significant difference in odds between those in quintile 2 and quintile 1.

The second interaction term investigates whether parental income quintile moderates the odds ratio on the household size covariate, to determine if the negative impacts of household size on work intensity differ based on parental background. The significant results on the interaction terms here indicate that the odds ratios on household size for those in quintiles 2, 3, and 5 are lower than those in quintile 1; indicating that those from

higher income quintiles have lower odds of being in a high work intensity category as their family grows. This suggests that for those from poorer backgrounds, household size does not negatively impact work intensity to such a degree as those from wealthier families.

Block 4: Government Interventions (Table 9)

The final two main effect model iterations add any benefit receipt to the model (Block 4a) and Youth Training Scheme participation (Block 4b). The benefit receipt covariate is significant and indicates that those with benefit receipt have 0.30 times lower odds of being in a higher work intensity category than those who do not receive benefits, even when controlling for some of the key drivers of work intensity like gender and household size. However, the picture of how benefits 'work' is more nuanced, as some of the other covariate effect sizes changed when benefit receipt was included in the model. The positive odds ratios of parental income quintiles above quintile 2 are slightly mediated when benefit receipt is included, as are the higher odds ratios on the education covariates. The lower odds ratio on the gender covariate has been mediated slightly from 0.27 to 0.29, which suggests that there is a relationship between benefit receipt and gender that will be useful to explore in an interaction term.

Perhaps the most notable finding when adding benefit receipt to a model of work intensity is the change in the effect size on the young parenthood covariate. Here the main effect odds ratio between young parents and those who are not young parents increased from 1.24 (not statistically significant) to 1.49 (statistically significant). Now after for controlling for benefit receipt those who are young parents have significantly higher odds of being in a high work intensity category than those who are not young parents. This suggests that benefit receipt is a notable factor in the relationship between young parents and labour market attachment. Therefore, it will be important to explicitly test whether the impact of young parenthood is moderated by benefit receipt and if benefit receipt can play a role in positive labour market attachment for young parents who receive them.

The final main effect included in the model measures the effect of Youth Training Scheme participation, and the insignificant result indicates that those who participate in a Youth Training Scheme do not have significantly different odds of being in a high work intensity category than those who do not participate. When taken together with the YTS result on the wage model, the results suggest that YTS participants have no significant differences in

labour market attachment than other respondents, but have lower labour market returns from their participation.

Block 4 interactions (Table 11)

The interaction of benefit receipt and gender is included to investigate whether the impact of benefit receipt on work intensity differs between men and women, and an interaction odds ratio of 2.12 indicates that the negative impacts of benefit receipt are not as large for women as for men. The benefit receipt main effect indicates that men who receive benefits have 0.17 times lower odds of being in a higher work intensity category than men who do not receive benefits. Women who receive benefits also have lower odds than women who do not receive benefits, here with an odds ratio of 0.35. The differing odds ratios between men and women may be due to comparison group differences; women overall are less likely to be in higher work intensity categories, so women who receive benefits may not be as 'worse off' than their female counterparts on this outcome. This may also be indicative of a particularly notable group of 'high risk' males in this sample who receive benefits, who differ substantially in their ability to engage in the labour market than other men in the cohort.

Benefit receipt also has varying impacts on work intensity when investigated at different ages in the respondent's life course. Notably for this research, there is no significant difference in work intensity at age 21 between those who do and do not receive benefits (odds ratio = 1.24). The negative impacts of receiving benefits on work intensity, however, begin to emerge from age 30 onwards, where the odds of being in a higher work intensity category are far lower for those who receive benefits than for those in the same age group who do not receive benefits. This result suggests that the timing of benefit receipt therefore is a valuable component to consider when determining how government intervention impacts respondents' work intensity, particularly as cohort members move into their family of destination.

The impact of benefit receipt on work intensity is also moderated by parental background. The only parental income categories with significantly different odds ratios than quintile 1 are those in quintile 3 and quintile 4 (noted in the significant interaction terms). Respondents who receive benefits from quintile 3 have odds 0.41 times lower than respondents from quintile 3 who do not receive benefits, a much less negative odds ratio than the receipt of benefits for those from quintile 1 respondents (benefit receipt main

effect OR = 0.17). For respondents from quintile 4, benefit receipt corresponds to higher odds of being in a high work intensity category compared to quintile 4 respondents not receiving benefits (OR= 1.23); so although parental background moderates the effect of benefit receipt, it does so differently for groups in the middle income quintiles.

The interaction term of young parenthood and benefit receipt was not found to be significant, and therefore the impact of young parenthood does not differ between those who do and do not receive benefits. Together with the main effect results on young parenthood, benefit receipt cannot be considered a factor that moderates the impacts of young parenthood, but rather a factor that mediates the impact of young parenthood on work intensity.

The final interaction term tests whether the impact of Youth Training Scheme participation differs between respondents who have experience receiving benefits. The interaction term odds ratio of 0.51 indicates that the negative impact of YTS participation is exacerbated for respondents who also have benefit receipt in the survey period, and that YTS is associated with much lower odds of being in a higher work intensity category for cohort members who have benefit receipt history (bold OR = 0.62). The positive odds ratio on the YTS main effect (OR = 1.22) indicates that YTS may have a positive impacts on later work intensity, but only for respondents who also have no history of benefit receipt.

Summary

As with the wages model, gender is the most prominent demographic factor in the BCS sample's work intensity, both as an independent effect on the outcome and as a moderating variable. For women in particular the experience of growing up does not necessarily correspond to higher work intensity, which is likely due to the harsher labour market attachment penalties for women as their family increases in size. Parental background also had particularly notable results. Although there were not large differences in work intensity by parental background as a main effect, the impacts of parental background on work intensity increase as respondents age; suggesting as in the wages model that parental background becomes a more prominent aspect of one's labour market attachment outcomes after the youth period.

The impact of benefit receipt on work intensity shows that those who receive benefits have lower odds of higher work intensity than non-recipients (however again the composition

effects of the recipient group must be taken into account), with slightly more negative outcomes for males who receive benefits than females. The timing of benefit receipt is also important to consider on this outcome, as benefit receipt has more negative impacts on work intensity if received after the youth period. The conclusions to be drawn about benefit receipt and work intensity are also particularly nuanced, as the result on the young parenting covariate suggests that the receipt of benefits mediates the impact of young parenthood on work intensity. When controlling for benefit receipt young parents have higher odds of being in a high work intensity group than those who are not young parents, and suggest that benefits may be a positive factor in the labour market attachment of young parents. The impact of Youth Training Scheme participation was found to be moderated by benefit receipt, with participation found to have a positive relationship with higher work intensity for participants, but only for participants who do not also have experiences with other benefits.

Table 9: Longitudinal Ordered Logit Models of work intensity 1970 British Cohort Study, main effects (Blocks 1-4)

	Block 1		Block 2		Block 3		Block 4a		Block 4b	
	OR	t	OR	t	OR	t	OR	t	OR	t
Age (21)										
30	2.57***	(7.62)	2.17***	(6.08)	2.20***	(6.37)	2.21***	(6.37)	2.21***	(6.37)
34	3.33***	(9.98)	3.20***	(9.25)	3.23***	(9.69)	3.25***	(9.85)	3.25***	(9.84)
42	3.40***	(10.24)	3.68***	(10.11)	3.71***	(10.58)	4.43***	(11.80)	4.43***	(11.79)
Female	0.28***	(-13.53)	0.27***	(-12.96)	0.27***	(-13.16)	0.29***	(-12.62)	0.29***	(-12.58)
Educ (No quals)										
CSE/NVQ 1	1.83*	(2.53)	1.84*	(2.51)	1.86**	(2.61)	1.83**	(2.73)	1.83**	(2.72)
O level/NVQ 2	1.21	(0.99)	1.26	(1.18)	1.32	(1.42)	1.29	(1.43)	1.29	(1.43)
A level/NVQ 3	1.63*	(2.44)	1.69*	(2.57)	1.72**	(2.71)	1.58*	(2.43)	1.58*	(2.45)
Higher Q/NVQ 4	1.76**	(2.95)	1.70**	(2.73)	1.75**	(2.92)	1.52*	(2.31)	1.53*	(2.34)
Degree +/NVQ 5	2.18**	(3.26)	1.85*	(2.54)	1.96**	(2.80)	1.60*	(2.00)	1.62*	(2.05)
Region (London)										
Rest of England	0.93	(-0.49)								
Wales & Scotland	0.84	(-0.79)								
Health (Excellent)										
Good	1.19*	(1.97)	1.19*	(1.99)	1.18	(1.92)	1.20*	(2.10)	1.21*	(2.12)
Fair	0.94	(-0.42)	0.95	(-0.37)	0.95	(-0.37)	1.04	(0.33)	1.05	(0.33)
Poor	0.29***	(-4.30)	0.27***	(-4.52)	0.27***	(-4.42)	0.39**	(-3.28)	0.38***	(-3.31)
Young parenting			1.22	(1.41)	1.24	(1.53)	1.49**	(2.88)	1.49**	(2.89)
Household size			0.66***	(-10.78)	0.66***	(-10.85)	0.66***	(-10.79)	0.66***	(-10.79)
Married			0.99	(-0.12)						
Parental Inc (Q1)										
Quintile 2					1.54**	(2.82)	1.42*	(2.44)	1.43*	(2.46)
Quintile 3					1.26	(1.47)	1.09	(0.59)	1.10	(0.64)
Quintile 4					1.28	(1.18)	1.06	(0.28)	1.07	(0.34)
Quintile 5					1.08	(0.36)	0.87	(-0.64)	0.88	(-0.59)
Missing					1.22	(1.36)	1.14	(0.91)	1.14	(0.93)
Benefit recipient							0.30***	(-9.22)	0.30***	(-9.22)
YTS participant									1.06	(0.56)
Observations	3306		3260		3269		3269		3269	
Cases	901		891		891		891		891	

Displayed are odds ratios from an ordered logistic regression of waged work intensity with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.05

Table 10: Longitudinal Ordered Logit Models of work intensity 1970 British Cohort Study, interaction effects (Blocks 1-3)

	Age *Gender		YParent *Gender		HH size *Gender		Parent Inc *Age		HH Size* Parental Inc	
	OR	t	OR	t	OR	t	OR	t	OR	t
Age (21)										
30	7.55***	(8.88)	2.20***	(6.38)	2.32***	(6.69)	1.09	(0.25)	2.19***	(6.33)
34	35.15***	(11.50)	3.24***	(9.70)	3.48***	(10.01)	1.43	(1.01)	3.25***	(9.80)
42	17.35***	(10.92)	3.72***	(10.61)	4.00***	(10.79)	1.92	(1.87)	3.81***	(10.80)
Female	1.12	(0.67)	0.27***	(-12.68)	1.01	(0.06)	0.27***	(-13.06)	0.27***	(-13.15)
Age*Gender										
30 *Female	0.18***	(-6.34)								
	1.38									
34*Female	0.04***	(-9.37)								
	1.45									
42*Female	0.10***	(-8.07)								
	1.68									
Educ (No quals)										
CSE/NVQ 1	1.85*	(2.50)	1.84*	(2.51)	1.87*	(2.54)	1.88**	(2.65)	1.85**	(2.63)
O level/NVQ 2	1.21	(0.96)	1.25	(1.14)	1.29	(1.28)	1.31	(1.41)	1.28	(1.29)
A level/NVQ 3	1.65*	(2.36)	1.66*	(2.51)	1.71*	(2.62)	1.71**	(2.70)	1.67**	(2.59)
High Qs/NVQ 4	1.77**	(2.84)	1.69**	(2.70)	1.72*	(2.55)	1.74**	(2.90)	1.70**	(2.81)
Degree +/NVQ 5	2.15**	(3.11)	1.85*	(2.53)	1.89*	(2.62)	1.93**	(2.72)	1.90**	(2.68)
Health (Excellent)										
Good	1.16	(1.65)	1.19	(1.96)	1.17	(1.76)	1.18	(1.81)	1.19*	(2.00)
Fair	0.90	(-0.78)	0.94	(-0.45)	0.95	(-0.39)	0.93	(-0.51)	0.95	(-0.42)
Poor	0.25***	(-4.16)	0.27***	(-4.51)	0.26***	(-4.67)	0.27***	(-4.48)	0.27***	(-4.59)
Young parenting			1.20	(0.49)	1.27	(1.59)	1.23	(1.51)	1.22	(1.46)
YParent*Female			1.00	(-0.01)						
			1.20							
Household size			0.66***	(-10.84)	0.86**	(-2.48)	0.66***	(-11.08)	0.89	(-1.23)
HH size*Female					0.67***	(-5.16)				
					0.58					
Parental Inc (Q1)										
Quintile 2							1.17	(0.47)	3.64**	(3.08)
Quintile 3							0.55	(-1.72)	5.56***	(3.90)
Quintile 4							0.31*	(-2.44)	2.47	(1.71)
Quintile 5							0.33	(-1.90)	5.73*	(2.34)
Missing							0.75	(-0.90)	4.11***	(3.48)

Parental Inc*Age					
Quintile 2*Age 30			1.59	(1.04)	
			1.86		
Quintile 3*Age 30			3.15*	(2.56)	
			1.74*		
Quintile 4*Age 30			5.79**	(2.66)	
			1.82**		
Quintile 5*Age 30			3.59	(1.58)	
			1.17		
Missing*Age 30			1.80	(1.41)	
			1.34		
Quintile 2*Age 34			1.58	(1.05)	
			1.85		
Quintile 3*Age 34			3.38**	(2.79)	
			1.87		
Quintile 4*Age 34			9.55***	(3.50)	
			2.99		
Quintile 5*Age 34			6.89**	(2.62)	
			2.26		
Missing*Age 34			2.11	(1.83)	
			1.58		
Quintile 2*Age 42			1.22	(0.45)	
			1.43		
Quintile 3*Age 42			2.77*	(2.42)	
			1.54		
Quintile 4*Age 42			6.95**	(3.12)	
			2.18		
Quintile 5*Age 42			6.25*	(2.55)	
			2.04		
Missing*Age 42			1.98	(1.70)	
			1.48		
HH *PInc					
HH size*Quintile 2				0.77*	(-2.20)
				0.68	
HH size*Quintile 3				0.64***	(-3.71)
				0.57	
HH size*Quintile 4				0.82	(-1.33)
				0.73	
HH size*Quintile 5				0.61**	(-2.63)
				0.54	
HHsize*Missing				0.69**	(-3.24)
				0.60	

Observations	3306	3269	3269	3269	3269
Cases	901	891	891	891	891

Displayed are odds ratios from an ordered logistic regression of waged work intensity with t statistics in parentheses; odds ratios in bold are those resulting from the interaction terms.
***p<0.001, **p<0.01 *p<0.05

Table 11: Longitudinal Ordered Logit Models of work intensity 1970 British Cohort Study, interaction effects (Block 4)

	Benefits recd *Gender		Benefits recd*Age		Benefits recd*P Inc		Benefits recd*YParent		YTS* Benefits recd	
	OR	t	OR	t	OR	t	OR	t	OR	t
Age (21)										
30	2.20***	(6.32)	2.94***	(8.23)	2.21***	(6.35)	2.23***	(6.45)	2.23***	(6.44)
34	3.24***	(9.77)	4.41***	(11.77)	3.25***	(9.83)	3.30***	(9.93)	3.25***	(9.86)
42	4.36***	(11.64)	5.29***	(12.24)	4.37***	(11.66)	4.54***	(11.90)	4.43***	(11.80)
Female	0.26***	(-13.08)	0.29***	(-12.30)	0.29***	(-12.64)	0.29***	(-12.55)	0.29***	(-12.91)
Benefit recipient	0.17***	(-5.57)	1.24	(0.73)	0.17***	(-5.58)	0.27***	(-9.09)	0.38***	(-6.01)
Ben Recd*Female	2.12*	(2.17)								
	0.35									
Ben Recd* Age 30			0.12***	(-6.27)						
			0.14							
Ben Recd* Age 34			0.11***	(-6.37)						
			0.14							
Ben Recd* Age 42			0.24***	(-4.26)						
			0.30							
Educ (No quals)										
CSE/NVQ 1	1.82**	(2.73)	1.88**	(2.74)	1.85**	(2.77)	1.84**	(2.74)	1.87**	(2.84)
O level/NVQ 2	1.30	(1.50)	1.24	(1.17)	1.30	(1.46)	1.29	(1.41)	1.30	(1.47)
A level/NVQ 3	1.59*	(2.53)	1.53*	(2.19)	1.59*	(2.47)	1.57*	(2.39)	1.59*	(2.49)
Higher Qs/NVQ 4	1.54*	(2.43)	1.46*	(2.02)	1.53*	(2.34)	1.52*	(2.29)	1.55*	(2.45)
Degree +/NVQ 5	1.66*	(2.15)	1.58	(1.86)	1.64*	(2.11)	1.62*	(2.01)	1.66*	(2.16)
Health (Excellent)										
Good	1.20*	(2.05)	1.23*	(2.26)	1.19	(1.94)	1.21*	(2.11)	1.21*	(2.13)
Fair	1.04	(0.32)	1.06	(0.45)	1.04	(0.33)	1.04	(0.27)	1.06	(0.40)
Poor	0.40**	(-3.25)	0.43**	(-2.85)	0.38***	(-3.41)	0.39***	(-3.34)	0.40**	(-3.23)
Household size	0.67***	(-10.70)	0.66***	(-10.77)	0.66***	(-10.91)	0.66***	(-10.80)	0.66***	(-10.79)
Young parenting	1.46**	(2.78)	1.37*	(2.25)	1.51**	(3.01)	1.23	(1.35)	1.50**	(2.95)
BenRecd*YParent							1.76	(1.72)		
							0.47			
Parental Inc (Q1)										
Quintile 2	1.45*	(2.54)	1.43*	(2.44)	1.23	(1.18)	1.44*	(2.51)	1.42*	(2.44)
Quintile 3	1.11	(0.72)	1.09	(0.55)	0.89	(-0.67)	1.11	(0.67)	1.12	(0.73)
Quintile 4	1.06	(0.31)	1.08	(0.37)	0.80	(-0.99)	1.07	(0.34)	1.09	(0.43)
Quintile 5	0.87	(-0.62)	0.86	(-0.68)	0.71	(-1.46)	0.89	(-0.54)	0.91	(-0.45)

Missing	1.14	(0.96)	1.11	(0.73)	0.95	(-0.28)	1.14	(0.95)	1.16	(1.05)
Ben Recd*P Inc										
Yes*Quintile 2					1.60	(1.16)				
					0.26					
Yes *Quintile 3					2.49*	(2.12)				
					0.41					
Yes * Quintile 4					10.68**	(3.27)				
					1.23					
Yes*Quintile 5					5.21	(1.51)				
					0.60					
Yes*Missing					1.85	(1.62)				
					0.21					
YTS Participant	1.06	(0.59)	1.07	(0.70)	1.05	(0.46)	1.06	(0.56)	1.22	(1.80)
YTS*BenRecd									0.51**	(-2.60)
									0.62	
Observations	3269		3269		3269		3269		3269	
Cases	891		891		891		891		891	

Displayed are odds ratios from an ordered logistic regression of waged work intensity with t statistics in parentheses; odds ratios in bold are those resulting from the interaction terms.
***p<0.001, **p<0.01 *p<0.05

4.6 BCS Household Income Measure and Descriptives

Description of outcome measure

The final outcome to be modelled for the UK case is gross annual household income measured at the 2012 BCS survey. The 2012 gross household income variable is described as 'total take home income from all sources' and thus the income is measured post-tax and post-transfers and before housing costs, which is consistent with the measure in the NLSY and elsewhere in poverty literature (Blank 2011; Meyer & Sullivan 2012). Like other surveys that capture household income data, respondents selected the income quintile in which their annual income was located rather than providing an exact amount of income measured as a continuous variable. The survey thus contained two different measures of banded gross income based on the number of earners in the household (single and two earners) with income bands scaled to the number of earners. The highest income quintile for two earner households would necessarily correspond to much higher income than the highest income quintile for single earner households; the lower boundary of the highest income band for single earner households is set at £32,400/year compared to £81,300/year for two earner households.

Figure 22 details the distribution of the 784 respondents in two earner households into income quintiles and accounts for 69% of the total sample in 2012. The distribution of two-earner households is slightly skewed to the higher income categories: around 40% of the sample have incomes in the top two quintiles and 45% of the sample have incomes in the middle income quintile. Figure 23 details this distribution for the 247 respondents in single earner households in 2012. Around 37% of respondents were in the fourth income quintile and another 32% were in the middle income quintile. There is a slightly larger percentage of single adult respondents in the highest income quintile (around 15%), which may point to the presence of particularly affluent members of the cohort as single earners.

Figure 22: Gross Household Income 2012, BCS two earner households

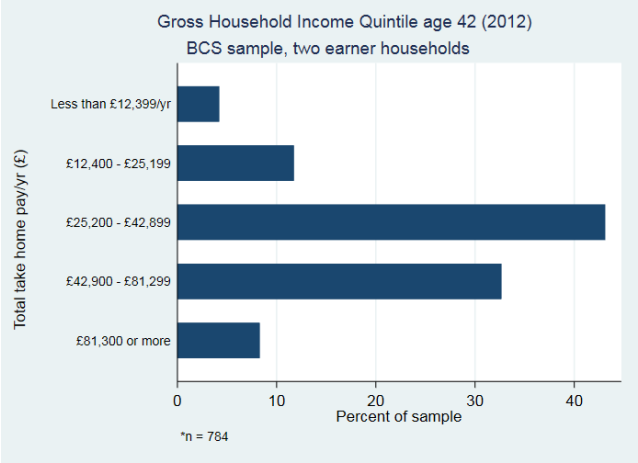
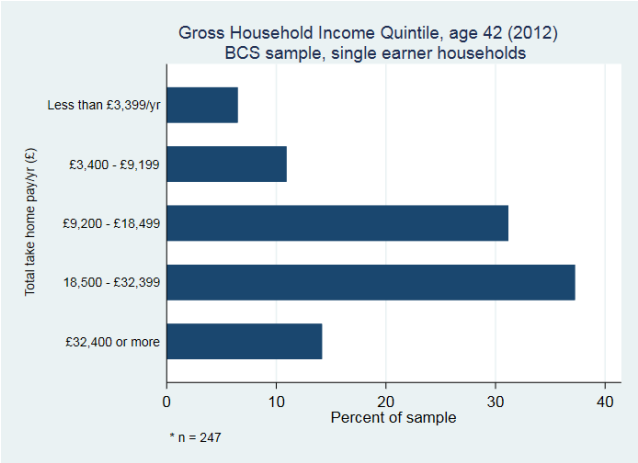


Figure 23: Gross Household Income 2012, BCS single earner households



Preliminary model iterations for this outcome measure produced regressions separately for each earner type. However, because of the nature of the data as an unbalanced panel and the decision to run the model as complete cases, the sample size in each case fell below 200 sample members during modelling. To rectify this issue, a new outcome variable was created to measure gross household income that would combine the two earner categories into one variable and would use income quintiles without stated income amounts. Using this operationalisation of the outcome variable does not sacrifice any analytical quality, since the interest in this investigation is on income level as relative to the rest of the sample members in this dataset rather than an absolute poverty threshold. As the income bands for single and two earner households were created by BCS survey designers to be appropriately scaled to the number of adult income earners in the household there are no major issues with using an income quintile measure without the same income amounts for both family types. All that must be done is to control for family type with a household type

dummy variable. Modelling all of the sample members in one model ensures that there are enough sample members to produce unbiased results and compare groups effectively.

Figure 24 details the distribution of all sample members with gross household income data reported in 2012. As with the two previous figures, the majority of respondents have incomes in the third and fourth income quintile, with 75% of sample members having incomes in these two quintiles.

Figure 24: Gross Household Income 2012, total BCS sample

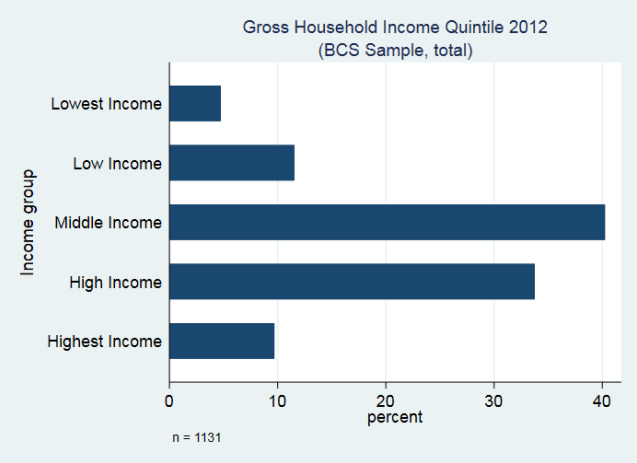
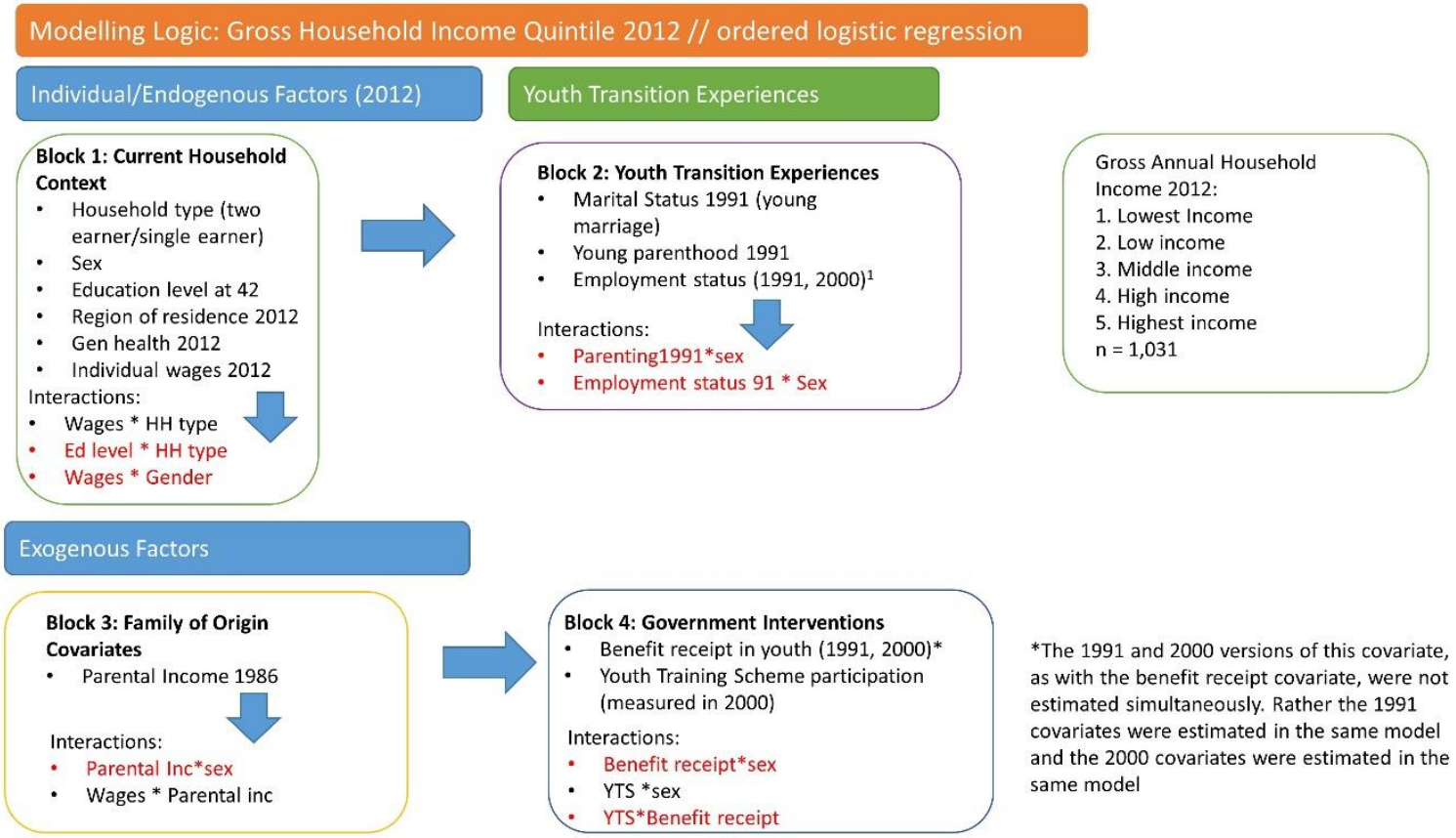


Figure 25: Modelling Logic, BCS Gross Household Income 2012 (Ordered Logistic Regression)



4.7 Regression Results: BCS Household Income 2012, Ordered Logistic Regression

Block 1: Current Household Context (Table 12)

The first block of covariates in this model serve as controls for the current household context, detailing the demographic covariates of the respondent in 2012. As this is not a longitudinal model there is no measurement of time in an age covariate. The results on the demographic characteristics in Block 1 show less significant effect sizes than in the other BCS models, most notably on the gender and education covariates, and is likely due to the fact that demographic characteristics of the individual may impact a household-level outcome less than in an individual outcome.

There are a couple of covariates in Block 1, however, that are significant in the model. The results of the first iteration in Table 12 show that respondents in two earner households have lower odds of being in a higher income quintile than respondents in single earner households (OR = 0.69). This seems to confirm that respondents in single earner households are indeed slightly more affluent than those in two earner households as indicated by Figure 23. The general health of the respondent also has a significant impact on this household income, as respondents with poor health have 0.22 times lower odds of being in a higher household income category as respondents with excellent health.

Finally, the odds of being in a higher household income category increase as wages increase, as a one-unit increase in logged monthly wages result in 1.12 times higher odds of being in a higher household income quintile. When the wages covariate was added after the other demographic characteristics the effect sizes on education, general health, and region of residence all reduced; this suggests that wages may be the most prominent factor in household income out of the household characteristics measured in 2012. Because many of the other demographic covariates in Block 1 are not significant as main effects in the model, it is likely that interaction terms that use these characteristics as moderating variables are also not significant.

Block 1 interactions (Table 13)

Significant interaction terms in Block 1 (Table 13) therefore only include the wage covariate. The interaction term of wages and household type is the only one that is significant, and was included to test whether the impact of wages on household income differs based on household type. The impact of wages for single earner households is

significantly different than that of two earner households, indicated by the significant interaction term. The wage effect for two earner households is 0.88 times that of the single earner households (interaction term OR), and indicates that for respondents in two earner families an increase in their logged wages makes a smaller difference in their odds of being in a higher income quintile (bold OR 1.09). A one-unit increase in logged wages for single earner families increases the odds of being in a higher household income quintile by a factor of 1.23 (wages main effect OR).

The other interaction term of wages and gender was found to be insignificant, and indicates that the impact of wages on household income does not differ by the gender of the respondent (perhaps surprisingly, given what is known about female labour market participation). An interaction between education and household type was also tested for in model iterations but was also found to be insignificant, and suggest that education impacts household incomes similarly for both household types.

Block 2: Youth Transition Experiences (Table 12)

The second block of covariates detail three distinct experiences in the youth period (measured at age 21) that may influence household income: young parenthood, marriage, and employment status. When added as main effect covariates neither marital status nor the experience of young parenthood is statistically significant. Even though the effect size on young parenthood is positive (OR = 1.22), the insignificance of the young parenting covariate suggests that this experience does not impact the household income of this sample of young parents in the long term. The only significant covariate in this block is employment status at age 21, and it is the only youth transition covariate carried forward to Block 3.

The effect sizes for employment status at 21 indicate that respondents who are unemployed or in full time education have significantly different outcomes than those in full time work at 21. The insignificance between those who work part time compared to full time work seems to suggest that there is no statistically significant 'penalty' in the long term by attaching to the labour market this way in the youth period. However, there are significant negative impacts on one's odds of being in a higher household income quintile for those out of the labour market and not in education at 21. Those who are unemployed at 21 have 0.56 times lower odds of being in a higher income quintile at age 42 than full time workers. The result for those who are unemployed at age 21 is particularly notable

because it suggests that unemployment experiences in the youth period have long term effects: however, this may be due to other prior factors that affect youth labour market attachment, like parental income, that is controlled for in Block 3 models. Those in full time education at age 21 also report significantly different impacts than full time workers, with odds 1.87 times higher, and confirms the importance of higher education on household income; again, however, the statistical significance disappears by Block 4.

Although two interaction terms were tested for in Block 2, neither were found to be significant in the model. Employment status at age 21 is not moderated by the gender of the respondent, nor is the effect of young parenthood moderated by gender.

Block 3: Parental background (Table 12)

The addition of parental income quintile in 1986 is a significant factor in the odds of being in a higher income quintile at age 42 and mediates some of the other covariate effect sizes. The significant and large odds ratios of those from quintile 4 (OR = 3.42) and quintile 5 (OR = 4.18) suggest that the parental background of the respondent indeed impacts household economic status in the long term. Those from quintiles 1 through 3 (where quintile 2 and quintile 3 covariates were insignificant) could be considered as one segment of respondents, while those in the top two income quintiles have markedly different outcomes at 42. These results are consistent with results in the wages model, as those from the top two income quintile groups also had much higher wages than sample members from poorer households. After adding covariates in Block 5, the odds ratios for the top two parental income quintile main effects decrease slightly but remain significant.

Including parental income quintile to the model most notably mediates the effect sizes on the employment status at age 21 covariate. Now, the effect size on the unemployment category is no longer statistically significant compared to those in full time work, indicating that the impact of this early employment experience is partially a function of parental background.

Block 3 interactions (Table 13)

The wages and parental income interaction is included to determine how the impact of respondent wages differs between respondents from lower and higher income families. There are significant interaction terms for respondents from quintiles 2, 3 and 5, and odds ratios below 1 indicate that wages have slightly lower positive impacts on the odds of being

in a higher income category for these groups compared to those from quintile 1. Therefore, respondents in quintile 1 have the largest effect sizes, as a one-unit increase in logged wages for this group corresponds to 1.44 times higher odds of being in a higher household income category (given by the monthly wage main effect). The bold odds ratios indicate that those from quintiles 3 and 5 have much smaller increases in odds of being in a higher income category when respondent wages increase (quintile 3 OR = 1.12, quintile 5 OR = 1.02). These results suggest that the wages of respondents from higher parental backgrounds have less of an impact on household income, and that these groups do not rely on wage income to the same extent as respondents from poorer families. This also suggests that those from more affluent families may have additional resources that can be drawn on to improve their household income in the long term.

Block 4: Government interventions (Table 12)

The covariates in the government intervention block assess whether receipt of government assistance at one point in the youth period has impacts at age 42 for this sample. Benefit receipt at age 21 is not found to be a significant factor in this model, and indeed there is almost no difference in the odds of being in a higher household income category between those who do and do not receive benefits at this age (odds ratio = 0.99). The inclusion of this covariate also does not mediate any of the other covariate effects, unlike the results of the individual outcome models. In order to determine if benefit receipt at age 21 was ever a significant covariate in the model the measure was entered in iterations at the end of different covariate blocks. During this process benefit receipt was found to be significant in the model only before employment status at age 21 was included, and indicates that the employment status of the respondent captures the same type of impacts on household income at 42 that benefit receipt does when measured at this age.

The addition of the YTS covariate, however, does result in a significant effect on household income. BCS respondents in this sample who participated in YTS at any time between age 16 and 30 have 0.72 times lower odds of being in a higher household income category than those who do not have this experience. This suggests that this intervention in the labour market trajectory of respondents in the youth period is associated with worse outcomes, even when income is measured at the household level. This result is consistent with what is found in the individual wages model, where YTS participants have a lower overall wage

trajectory than those without this experience, which would therefore also impact household income at 42.

The final iteration in Table 12 was included to test whether the timing of benefit receipt impacts on household income at age 42, which was suggested by interaction terms in the individual models. The model with benefit receipt measured at age 30 along with the corresponding employment status covariate at age 30 resulted in significant effects. When benefits are received at age 30 there is a significant difference in the odds of being in a higher household income category than those who do not receive benefits (odds ratio = 0.46). The relatively low odds ratio on benefit receipt at 30 suggests that the timing of benefit receipt is indeed important: while benefits received at age 21 do not impact household income at 42, benefits received in early adulthood (and likely as a member of the family of destination) will have long term impacts.

Block 4 interactions (Table 13)

Although benefit receipt in 1991 was not found to be significant as a main effect, an interaction term with gender as the moderating variable was included to test if indeed benefit receipt when received by women as opposed to men has different impacts on household income. The interaction term was not found to be significant, and therefore the impact (or lack thereof) of benefit receipt at age 21 can be considered to act the same regardless of gender. The second interaction term on YTS participation and gender is included to investigate whether the impact of this participation differs for male and female respondents. The odds ratio on the YTS main effect is significant here although the interaction term is not, indicating that YTS does not act differently for men and women in the sample. However, the main effect on the YTS covariate, which identifies the effect for just men in the sample is significant, where men who participate in YTS have 0.55 times lower odds of being in higher income category than those who do not participate. The odds ratio on YTS among females is 0.88, indicating that there is not a significant difference in odds among females based on their YTS participation history.

Summary

Unlike the results for the previous individual models of economic independence, the model of household income at 2012 did not show the same type of independent effect sizes for the gender covariate. This is likely because the outcome is measured at the household

level. Rather, the factors that were shown to have the largest impact on household income were the wage income of the respondent and parental background. Wages were found to be a more prominent factor in household income for respondents from less affluent parental backgrounds, which suggests that those from higher background groups do not have to rely on wages to the same degree. What is perhaps surprising about this model is that the youth transition experience of young parenthood does not negatively impact household income at 42, and that employment status at 21 also did not have different impacts on household income once parental background was included in the model. This suggests that parental background has an impact on household income as an independent factor but also that employment status at 21 can also be considered partially as a function of parental background.

Benefit receipt at 21 was not found to have a significant impact on the odds of being in a higher household income category at 42, and suggests that it is not an appropriate for this sample to assert that benefit receipt received at one point in the youth period is significantly associated with worse household incomes into mid-life. However, as was suggested in interaction terms in the individual models, the timing of benefit receipt in one's life course is important to consider. When benefits are received at age 30, more likely now received as part of the family of destination, those who receive benefits have lower odds of being in a high income category than those who do not receive benefits at age 30. Finally, government intervention in the form of Youth Training Scheme participation had negative impacts on household income at 42, with men who participated in YTS exhibiting worse outcomes than their male counterparts without this experience.

Table 12: Ordered Logistic Regression Models of gross household income 2012 1970 British Cohort Study, main effects (Blocks 1-4)

	Block 1		Block 2		Block 3		Block 4a		Block 4b	
	OR	t	OR	t	OR	t	OR	t	OR	t
HH type (Single earner)										
Two earner	0.69*	(-2.20)	0.63**	(-2.66)	0.60**	(-2.93)	0.60**	(-2.93)	0.59**	(-2.97)
Female	1.02	(0.14)	1.03	(0.19)	1.07	(0.48)	1.04	(0.31)	1.18	(1.06)
Educ (No quals)										
CSE/NVQ 1	1.41	(1.04)	1.42	(1.00)	1.29	(0.73)	1.28	(0.72)	1.21	(0.57)
O level/NVQ 2	0.79	(-0.80)	0.80	(-0.74)	0.74	(-0.99)	0.75	(-0.94)	0.70	(-1.21)
A level/NVQ 3	1.31	(0.90)	1.33	(0.90)	1.16	(0.48)	1.13	(0.40)	1.04	(0.12)
Higher Qs/NVQ 4	2.35**	(2.91)	2.16*	(2.48)	1.86*	(2.02)	1.78	(1.85)	1.75	(1.84)
Degree+/NVQ 5	3.53**	(3.26)	2.46*	(2.09)	1.89	(1.51)	1.81	(1.38)	2.06	(1.85)
Region (London)										
Rest of England	0.62	(-1.61)	0.64	(-1.51)	0.69	(-1.28)	0.71	(-1.16)	0.70	(-1.18)
Wales & Scotland	0.35**	(-2.80)	0.38**	(-2.63)	0.43*	(-2.27)	0.45*	(-2.12)	0.45*	(-2.13)
Health (Excellent)										
Good	0.88	(-0.75)	0.93	(-0.42)	0.91	(-0.55)	0.90	(-0.63)	0.88	(-0.79)
Fair	0.57	(-1.92)	0.64	(-1.49)	0.63	(-1.57)	0.64	(-1.51)	0.66	(-1.40)
Poor	0.22***	(-4.10)	0.26***	(-3.58)	0.26***	(-3.57)	0.28***	(-3.51)	0.37*	(-2.53)
Monthly wages (ln)	1.12***	(4.37)	1.12***	(4.43)	1.13***	(4.63)	1.13***	(4.68)	1.11***	(4.20)
Married 1991			1.05	(0.32)						
Young parenting			1.22	(0.58)						
Emp Stat 1991 (FT)										
PT work			0.64	(-1.42)	0.68	(-1.31)	0.68	(-1.23)		
Unemployed			0.56*	(-2.07)	0.59	(-1.86)	0.60	(-1.19)		
FT Ed			1.87*	(2.40)	1.72*	(2.11)	1.61	(1.84)		
Home			0.45	(-1.69)	0.54	(-1.82)	0.53	(-1.48)		
Training			0.25	(-0.47)	0.30	(-0.42)	0.36	(-0.35)		
Sick/Disabled			2.05	(0.66)	2.34	(0.71)	2.47	(0.82)		
Parental Inc 1986 (Q1)										
Quintile 2					1.29	(1.04)	1.28	(0.98)	1.21	(0.74)
Quintile 3					1.33	(1.17)	1.28	(0.98)	1.25	(0.87)
Quintile 4					3.42***	(3.77)	3.27***	(3.59)	3.25***	(3.55)
Quintile 5					4.18***	(3.80)	4.03***	(3.67)	3.89***	(3.56)
Missing					1.88**	(2.65)	1.87**	(2.60)	1.81*	(2.42)
Ben Recd 1991							0.99	(-0.02)		

YTS participant							0.72*	(-2.30)	0.70*	(-2.50)
Emp Stat 2000 (FT)										
PT work									0.89	(-0.58)
Unemployed									1.06	(0.18)
FT Ed									0.60	(-0.54)
Home									0.61	(-1.93)
Sick/Disabled/Other									0.49	(-1.72)
Ben Recd 2000									0.46**	(-3.24)
cut1	0.04***	(-6.70)	0.04***	(-6.63)	0.05***	(-5.68)	0.04***	(-5.78)	0.03***	(-6.08)
cut2	0.17***	(-3.82)	0.16***	(-3.83)	0.23**	(-2.88)	0.20**	(-3.06)	0.15***	(-3.47)
cut3	1.45	(0.80)	1.43	(0.76)	2.14	(1.51)	1.87	(1.19)	1.43	(0.66)
cut4	13.04***	(5.34)	13.63***	(5.33)	21.14***	(5.87)	18.65***	(5.47)	14.14***	(4.80)
Observations	820		805		820		820		820	

Displayed are odds ratios from an ordered logistic regression of gross household income with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.05

Table 13: Ordered Logistic Regression Models of gross household income 2012 1970 British Cohort Study, interaction effects (Blocks 1-4)

	Wages* Gender		Wages *HH type		Wages* Parent Inc		Benefits 1991*Gender		YTS *Gender	
	OR	t	OR	t	OR	t	OR	t	OR	t
HH Type (Single earner)										
Two earner household	0.67*	(-2.33)	1.38	(0.85)	0.59**	(-3.06)	0.60**	(-2.90)	0.59**	(-2.97)
Female	1.58	(1.38)	0.99	(-0.06)	1.09	(0.65)	1.04	(0.24)	0.89	(-0.64)
Monthly wages (ln)	1.16***	(4.15)	1.23***	(3.92)	1.44***	(4.90)	1.13***	(4.68)	1.13***	(4.63)
Wages*Female	0.93	(-1.57)								
Educ (No quals)										
CSE/NVQ 1	1.35	(0.90)	1.33	(0.84)	1.30	(0.75)	1.28	(0.72)	1.27	(0.69)
O level/NVQ 2	0.77	(-0.91)	0.79	(-0.79)	0.78	(-0.81)	0.75	(-0.94)	0.75	(-0.96)
A level/NVQ 3	1.29	(0.85)	1.32	(0.93)	1.21	(0.59)	1.14	(0.40)	1.15	(0.45)
Higher Qs/NVQ 4	2.24**	(2.75)	2.36**	(2.90)	1.99*	(2.20)	1.79	(1.86)	1.79	(1.87)
Degree +/NVQ 5	3.56***	(3.30)	3.54**	(3.28)	1.97	(1.59)	1.81	(1.39)	1.81	(1.38)
Region (London)										
Rest of England	0.61	(-1.66)	0.61	(-1.62)	0.68	(-1.37)	0.71	(-1.14)	0.70	(-1.23)
Wales & Scotland	0.34**	(-2.90)	0.35**	(-2.80)	0.40*	(-2.48)	0.45*	(-2.10)	0.44*	(-2.18)
Health (Excellent)										
Good	0.87	(-0.87)	0.88	(-0.78)	0.90	(-0.62)	0.90	(-0.63)	0.93	(-0.45)
Fair	0.56*	(-2.02)	0.59	(-1.82)	0.69	(-1.20)	0.64	(-1.51)	0.65	(-1.46)
Poor	0.21***	(-4.40)	0.26***	(-3.65)	0.26***	(-3.63)	0.28***	(-3.52)	0.28***	(-3.48)
Wages*Two earner HH			0.88*	(-2.13)						
Parental Inc (Q1)										
Quintile 2					4.18*	(2.35)	1.28	(0.99)	1.28	(0.98)
Quintile 3					5.20**	(2.72)	1.28	(0.99)	1.27	(0.96)
Quintile 4					10.89**	(2.87)	3.28***	(3.59)	3.20***	(3.51)
Quintile 5					28.38***	(3.89)	4.04***	(3.68)	4.01***	(3.66)
Missing					10.78***	(4.27)	1.88**	(2.61)	1.88**	(2.60)
Wages*Parental income										
Wages*Quintile 2					0.80*	(-2.43)				
					1.16					
Wages*Quintile 3					0.78**	(-2.86)				
					1.12					
Wages*Quintile 4					0.81	(-1.86)				
					1.16					

Wages*Quintile 5					0.72**	(-2.80)				
					1.02					
Wages*Missing					0.73***	(-3.93)				
					1.04					
Emp Stat 1991 (FT)										
PT work					0.65	(-1.45)	0.68	(-1.23)	0.67	(-1.27)
Unemployed					0.56*	(-2.03)	0.62	(-1.03)	0.63	(-1.08)
FT Ed					1.73*	(2.16)	1.61	(1.84)	1.63	(1.90)
Looking after home					0.60	(-1.43)	0.52	(-1.49)	0.53	(-1.44)
Training					0.29	(-0.41)	0.36	(-0.35)	0.40	(-0.30)
Sick/Disabled					1.99	(0.52)	2.47	(0.82)	2.58	(0.92)
Benefit recipient 1991							0.93	(-0.14)	0.96	(-0.11)
Ben Recd 1991*Gender							1.09	(0.18)		
YTS participant							0.72*	(-2.30)	0.55**	(-2.92)
YTS*Female									1.61	(1.71)
									0.88	
cut1	0.04***	(-6.26)	0.06***	(-5.10)	0.17**	(-2.67)	0.04***	(-5.73)	0.04***	(-5.85)
cut2	0.20***	(-3.36)	0.28*	(-2.37)	0.87	(-0.20)	0.20**	(-3.04)	0.18**	(-3.20)
cut3	1.73	(1.14)	2.48	(1.69)	8.52**	(3.16)	1.87	(1.20)	1.68	(0.97)
cut4	15.59***	(5.54)	22.62***	(5.60)	84.33***	(6.43)	18.73***	(5.46)	16.81***	(5.18)
Observations	820		820		820	820	820			

Displayed are odds ratios from an ordered logistic regression of gross household income with t statistics in parentheses; transformed interaction odds ratios are in bold.
***p<0.001, **p<0.01 *p<0.05

A summary of the final main effects models for all three of the BCS models is found in Table 14, included here to detail broadly the effects of each of the covariates of interest. The demographic characteristics in the household income model are measured at 2012. However, these tables do not include interaction effects, which are found in the regression tables in the previous pages.

Table 14: Summary of Final Main Effect Model Results, BCS

Variable/Covariate		**Wages** (positive = higher wages)	**Work Intensity** (positive = higher work int)	**Household Income** (positive = higher income)
Age		+ ***	+ ***	
Two Earner Household		n/a	n/a	-- **
Female		-- ***	-- ***	+
Education (A level +) 2012		+ ***	+ ***	+
Employment Status (Part Time)		-- ***	n/a	--
Poor Health			-- ***	--
Household size		--	-- ***	n/a
Married		+		
Young Parent		--	+ **	
Parental Income Q4 / Q5		+ **	+ / --	+ ***
Benefit Receipt (any)		-- ***	-- ***	n/a
Benefit Recd, age 21				+ / --
Benefit Recd, age 30				-- **
YTS participant		-- ***	+	-- *

Chapter 5: Case 2 Results, National Longitudinal Survey of Youth 1997

5.1 Introduction to the NLSY 1997 Results and Government Intervention Descriptives

The following chapter details the empirical results for the second case of this investigation, which uses the United States' National Longitudinal Survey of Youth 1997. As with the UK case, three empirical models will investigate economic independence. While the research question for both cases is the same and each of the three components of economic independence are conceptually similar (detailed in Chapter 3), the unique features of the NLSY dataset results in slightly different operationalisation of these concepts.

As with the BCS case, longitudinal descriptive figures for the independent variable of interest, benefit receipt/government assistance[42] are explored first. In the NLSY there are three different benefit receipt measures included in model iterations: receipt of any means-tested assistance, receipt of SNAP assistance, and the receipt of TANF cash assistance. This section will detail benefit receipt for this sample of respondents for each of these measures by particular demographic characteristics of interest[43], guided by theoretical issues introduced in Chapters 1 and 2.

Each survey wave in this sample contains a summary measure created by NLSY administrators that captures the number of months the respondent received any type of government assistance in the year. This measure was modified into a binary variable indicating whether or not the cohort member received any assistance for one month or more during the year. The 'Any benefit receipt' measure in this investigation includes participation in TANF, SNAP, WIC, SSI (Disability), VA benefits, childcare or housing assistance[44]. These programmes are available

[42] Research and policy documents that detail benefit programmes in the United States do not use the term 'benefit receipt' in their work: rather terms such as 'cash assistance' 'in-kind transfers' (in the case of SNAP or Housing Assistance), 'program participation', or the more broadly termed 'government assistance' is used. In the following regression tables the label 'benefit receipt' is used to align with the language of welfare state policy of the UK. However, the terms 'benefits' and 'government assistance' in this thesis are used interchangeably.

[43] Although generally considered a control variable in this analysis, descriptive figures were also produced by Census Region, which suggests that future research should consider regional (but ideally state) variation in government assistance as a driver in outcomes (see Appendix E and discussion in Chapter 6.3).

[44] The 'Any benefit receipt' measure does not include Unemployment Insurance or Worker's Compensation.

at each of the survey waves and receipt is only considered for respondents as an independent benefit unit.

Any benefit receipt descriptive figures

The NLSY sample contains respondents born between 1980 and 1984, and therefore in 1997 there are respondents who are younger than 16, the age of interest here. In order to create longitudinal descriptive figures with age as the time variable (x-axis) that includes the most sample members in each age group, figures are created for respondents from age 17 to age 34, measured in this survey in half years. There is data for all 8,000+ respondents from ages 17-29, and results from age 30 to 34 have smaller sample sizes as the 'oldest' cohort members. Because of different birth years of the NLSY cohort members, a respondent will turn 18, for example, anywhere between 1998 and 2002 and therefore there is no year listed on the x-axis of these longitudinal figures.

Figure 26 details the percentage of the total sample in receipt of any means-tested benefits, which increases with age to around 22% by age 24. After the youth period the proportion receiving government assistance begins to plateau for the remainder of the survey. The primary reason why the proportion of respondents in receipt of government assistance increases through the youth period is because as sample members become parents they are eligible for more means-tested benefits.

Almost immediately from age 16 onwards the trends in benefit receipt diverge markedly between men and women in the sample (Figure 27). The proportion of females who receive government assistance increases steadily and at a faster rate than males such that by age 24 there are around 30% of female sample members who access any benefits compared to around 12% of males. After the youth period there are slightly declining proportions of females in receipt, and by age 34 (n = 1000) there are around 25% of females receiving benefits with around 10% of males receiving benefits.

Perhaps the most important contextual difference in the US case is the effect that race has on a respondent's interaction with the welfare state and more broadly on youth transition outcomes. Figure 28 shows that the percentage of Black benefit recipients increases from 16 to 24 to a peak at around 32%, and stays around 30% for the rest of the survey. Hispanic respondents follow generally the same trend line as Black respondents during the youth period, and their peak of around 30% of the group receiving benefits is reached at age 25. The

subsequent nine years of data shows a decreasing and variable trend for Hispanic respondents, as the proportion in receipt stays between 20 -25%. White respondents have a trend line of benefit receipt much lower than the other two racial groups at every time point, and the proportion stays at or around 15% of the group from age 24 onwards. The trend lines in this descriptive figure suggest that there is indeed a systematic difference in the receipt of benefits depending on one's racial group, and suggests that race will likely be a factor to consider in interactions with benefit receipt.

The experience of young parenthood as it relates to government assistance is also relevant to consider because eligibility for means-tested benefits are often contingent on being a parent, and the experience of young parenthood is more prominent among lower income groups[45]. In this dataset young parenthood is defined as becoming a parent before age 24, and 33.5% of the NLSY sample here were parents at 24. Figure 29 illustrates a distinct difference in the proportion of respondents who receive benefits based on their status as young parents. Between 16 and 24 the percentage of young parents in receipt of government assistance increases dramatically, with around 50% of all respondents who are young parents receiving some form of means-tested benefits at age 24. Notably by age 34 (n = 1,000) still around 35% of this group receive government assistance. This trend diverges substantially for those who do not have children in the youth period, where the proportion of respondents receiving assistance only reaches a height of 12-15% from age 29 onwards.

Investigating benefit receipt by parental income quintile (Figure 30) produces results consistent with what is known about how parental background impacts poverty outcomes (and, therefore, receipt of means-tested benefits). The trends in benefit receipt in Figure 30 diverge noticeably after age 18, with around 35% more respondents from the lowest income quintile receiving benefits than those from the highest parental income group at age 24. Around age 24 the trend lines for each group begin to plateau and only after age 30 is there slightly more variation in benefit receipt trends for each group.

Descriptive analysis of welfare dynamics for this sample reported between 4 to 8% of those who did not receive any benefits in the previous year moving on to benefits in the subsequent year, and around 15 to 20% of those who received in the previous year moving off benefits in

[45] A cross tabulation and chi-square test of association on young parenthood and parental income for this sample concluded there is a moderate and significant relationship: Pearson chi2 = 418.56, Pr = 0.000, Cramer's V = 0.22.

the next period. This pattern of movement off and on assistance is relatively consistent between survey waves that generally cover both the first half of the panels (1997 to 2004) and the second half of the panels (2005 to 2013). As the NLSY cohort includes those born between 1980 and 1984, in general the youth period (where over 75% of the sample is over 17) extends from roughly the year 2000 to 2007. Around 5.8% of the entire sample (487 respondents) received assistance in the first two years of the youth period for all respondents (2000 and 2001) and the percentage of respondents who receive consecutively decreases with each wave, where only 2.2% of the sample (187 respondents) received benefits in all seven consecutive waves of the youth period. A larger group of respondents, 8.1% of the sample, received benefits at the beginning (2000) and the end (2007) of the youth period of interest. Together the results of this sample illustrate that there are very few benefit recipients who receive in consecutive years long-term, but rather likely cycle off and on benefits throughout youth and into adulthood. Based on the wider variation in the figures above on gender, race, and young parenthood, they are also used to investigate the two government assistance programmes in the US detailed in the upcoming models; SNAP and TANF. Both are included as separate benefit covariates in order to speak to the large body of research that exists on both of these programmes directly and to provide more nuanced results for this investigation. As will be detailed in the following pages, the patterns of receipt by demographic characteristics are similar for SNAP and TANF so the figures by the same demographic characteristic are displayed together.

Figure 26: Benefit Receipt (any), total NLSY sample

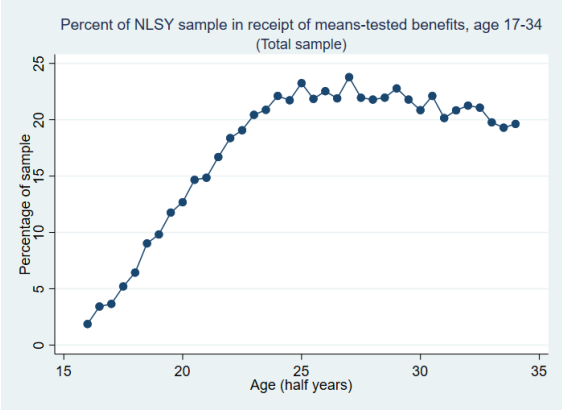


Figure 27: Benefit receipt (any), NLSY sample by gender

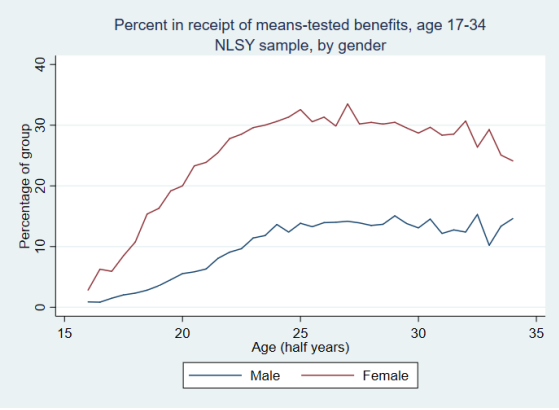
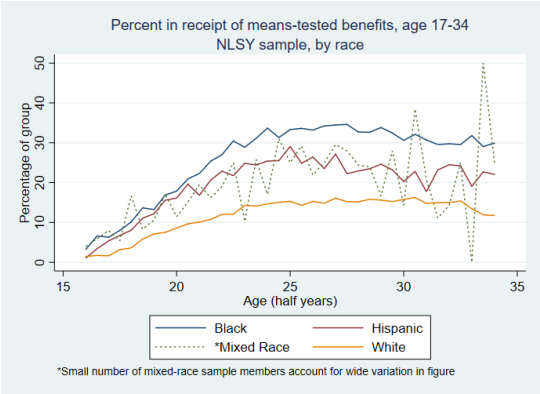


Figure 28: Benefit receipt (any), NLSY sample by race[46]



[46] Mixed race respondents are included in the regression tables that follow, but the results on descriptive figures are not particularly notable because of the very small number of respondents who identified themselves as mixed race at the first survey in 1997.

Figure 29: Benefit receipt (any), NLSY sample by parenting status at 24

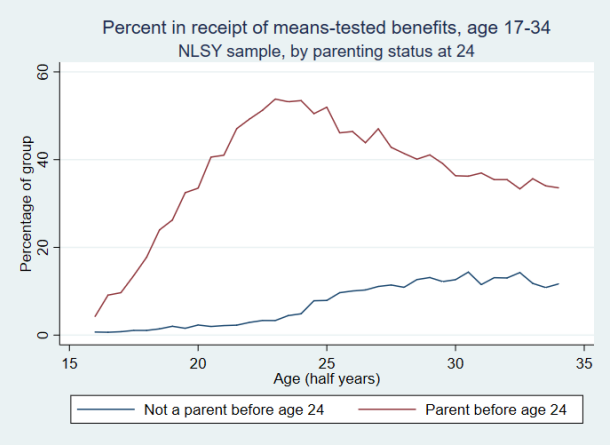
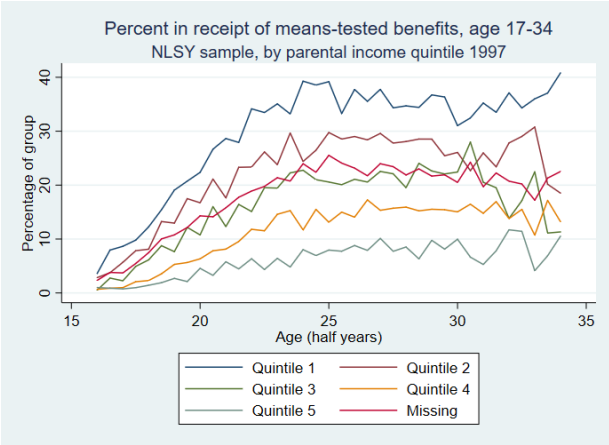


Figure 30: Benefit receipt (any), NLSY sample by parental income quintile 1997



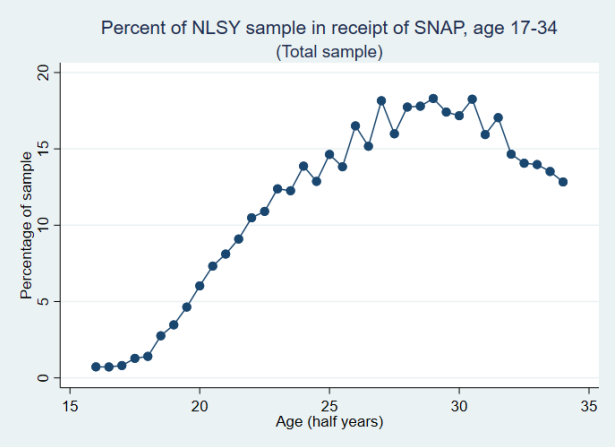
SNAP and TANF descriptive figures

Receipt for the total sample

Figure 31 illustrates the trend in SNAP receipt for NLSY sample members, which rises to a peak around age 27 when nearly 18% of the total sample receive SNAP in the survey year. This proportion of recipients stays relatively consistent until a decrease at age 30 onwards[47]. The growth in the proportion of sample members who receive SNAP is not particularly surprising, especially as family sizes grow and more respondents become eligible for the programme.

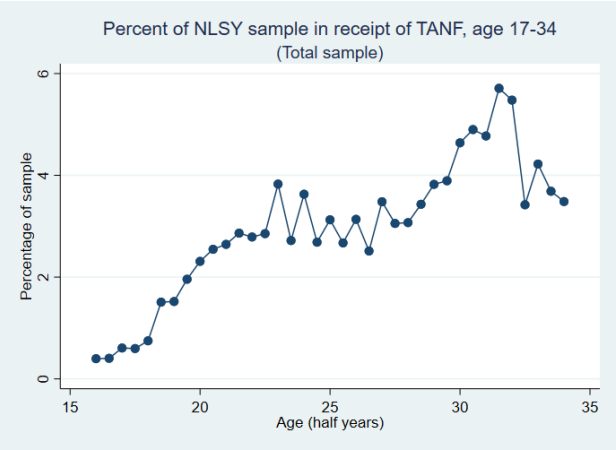
There is a smaller proportion of NLSY members receiving TANF (Figure 32) because of the lower income eligibility limit of 100% FPL (compared to 130% FPL for SNAP) paired with programme characteristics that deter participation (detailed in Chapter 1.2). In the total sample the percentage in receipt of TANF during the youth period increases from less than 2% to around 3.5% by age 24 (note scale on y axis of Figure 32). The largest uptick in the proportion that receive TANF is from around age 29 to age 32, where there are between 4% and 6% of respondents who access this programme (n = roughly 2000 at each age). Nationally, Americans who receive TANF account for less than 5% of the total population (Floyd et al. 2017).

Figure 31: SNAP receipt, total NLSY sample



[47] A reminder about the construction of the NLSY sample: as the sample includes respondents born between 1980 and 1984 the full sample contains 'younger' and 'older' members, and therefore results at age 30 onward in the demographic figures do not include the entire sample of cohort members. The full sample is survey between ages 17 and 29 (see Chapter 3.3 and Appendix A for additional information).

Figure 32: TANF receipt, total NLSY sample



Receipt by gender

Trends in SNAP receipt show particularly strong divergence along gender lines, with a very steep increase in the percentage of females in the sample receiving SNAP from age 20 to 27 to around 26% (Figure 33). During ages 27-30 the percentage of women receiving SNAP stays relatively consistent at about a quarter of the group before decreasing from age 30 onwards. This pattern is markedly different for the males in the sample, who, despite the growth in family size after age 25, still have only around 10% of the group in receipt of SNAP. As with the measure of benefit receipt, it is likely then that SNAP will have different impacts on females in the sample, which will be tested with an interaction.

The divergence in outcomes between males and females who receive TANF in Figure 34 details clearly a cash assistance programme targeted towards and serving low-income women with children. There is a notable increase in the proportion of women who receive TANF between 18 and 23 (up to 5%), and indicates that throughout youth and into early adulthood there is a group of single mothers who are poor enough and receive TANF; these mothers are therefore also particularly at risk of having poorer economic independence outcomes than their peers. The percentage of females who receive TANF remains around 5% from age 22 to age 28, when the proportion begins to increase; unsurprisingly, this pattern is not seen among males at any time point.

Receipt by young parenting status

The pattern of SNAP receipt by parenting status at age 24 mirrors quite strikingly the trend lines in receipt by gender; however, the increase in the portion of young parents receiving

SNAP rises more steeply to age 27 when around 35% of young parents receive SNAP (Figure 35). From around age 28 onwards the percentage of young parents receiving SNAP begins to decline, suggesting that SNAP is a particularly important source of assistance when children are young and becomes a less prominent part of this group's experience in their early 30s. For respondents who are not parents before 24 the proportion who receive SNAP climbs slowly from age 25 onwards but is only ever received by around 10% of this group. This suggests a systematic difference in interaction with the benefit system for those who are young parents.

When TANF receipt is viewed by parenting status in Figure 36, there is also a steep increase in receipt from age 18 to 24 for young parents; increasing from around 4.5% to around 10%. After age 24, however, the proportion of young parents who receive TANF decreases back down to 5% of the group: this is likely due to the more buoyant economy of the mid-2000s but is likely also a result of the programme itself, as recipients of TANF rarely receive benefits for many consecutive years (due to work requirements and time limits). Unlike the decreasing trends in SNAP receipt among young parents after 27, Figure 36 indicates that there is a consistent group of sample members who have children in the youth period that remain poor enough to receive TANF at some point in their later 20s and early 30s (however, again, this does not indicate that the same respondents have been in receipt for consecutive years). What is also notable to consider from this figure is not only how *many* young parents access TANF cash assistance, but how *few* young parents access this benefit. It is very likely that there are more low income young parents in the NLSY cohort who are eligible for TANF, but only a small proportion receive it.

TANF take up issues are investigated for two groups to detail the reach of this programme. Figure 37 details the percentage of cohort members living at or below 100% FPL who are in receipt of TANF across the survey years. The proportion of this group receiving TANF increases slightly with age from 5% to 10% between ages 20 and 30, with larger jumps in receipt for those with survey data from 30 onwards (however, again, the smaller number of sample members from 30 onwards may be a reason for this increase). Figure 38 details TANF take up for the target group of young parents in poverty, where between ages 20 and 30 receipt peaks at around 20% of young parents at age 24. This suggests that even for

young parents who are in poverty only a fifth of those who are likely eligible for TANF are accessing it, which is relatively consistent with national take up rates for young parents[48].

The TANF take up results are contrasted with SNAP figures, where nearly 40% of all those living below the poverty line receive SNAP from around age 26 onwards (Figure 38). The take up for SNAP among poor young parents is much higher, where around 22% of young parents at 21 receive SNAP, climbing to almost 60% of the group by age 24 (Figure 40). These receipt figures confirm that indeed SNAP is the primary form of government assistance accessed by citizens in poverty and by poor young parents in particular.

Receipt by race

Finally, the receipt of SNAP by racial group shows variation in receipt becoming more prominent after age 20 (Figure 41). Black respondents have a steeper increase in the proportion who receive SNAP from age 20 to 24 most notably (up to 25%), while both Hispanic and White respondent trends are relatively similar in the youth period (only up to around 10% of each group). Between age 24 and age 30 all groups of respondents have slower increases in the proportion receiving SNAP; notably the proportion of Hispanic respondents increases to around 20% by age 30 compared to 12% of White respondents. Especially in the youth period it is clear from this figure that Black respondents have much more interaction with this programme, as around a fifth of 24 year olds in this racial group access SNAP.

As with SNAP receipt there are distinct trends in TANF receipt by racial group, albeit at much lower proportions (Figure 42). During the youth period the proportion of Black respondents receiving TANF increases to around 7.5% of the group by age 24. Again, the proportion of those who receive TANF is more similar for White and Hispanic respondents, and stays at or around 4% for both groups to age 30. The variation in TANF receipt between racial groups, however, is not quite as large as the differences in SNAP receipt, which suggests that while the impact of TANF on economic independence outcomes should therefore be considered by race, the interaction terms of TANF receipt may not be particularly notable. These figures and those for any government assistance suggest that race may likely moderate the effect of benefit receipt, particularly between Black and White respondents, which will be explored in interaction terms in each of the models.

[48] As noted in Chapter 1.2, in 2016 around 23% of poor young parents accessed TANF nationwide.

Figure 33: SNAP receipt, NLSY sample by gender

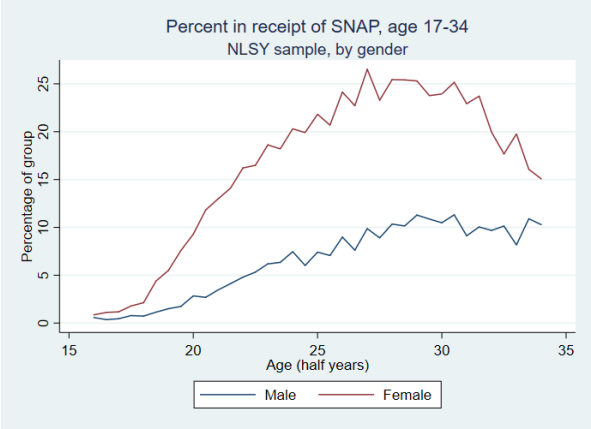


Figure 34: TANF receipt, NLSY sample by gender

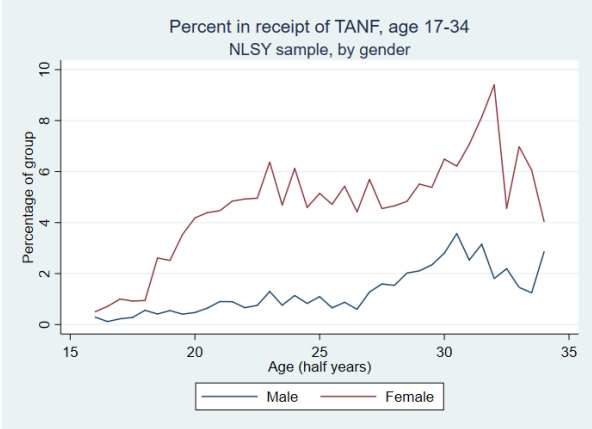


Figure 35: SNAP receipt, NLSY sample by parenting status at 24

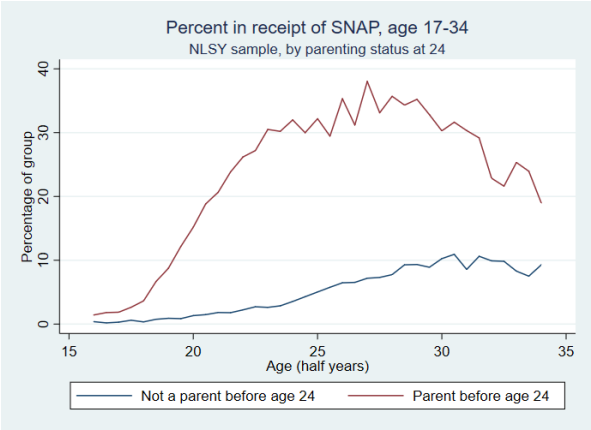


Figure 36: TANF receipt, NLSY sample by parenting status at 24

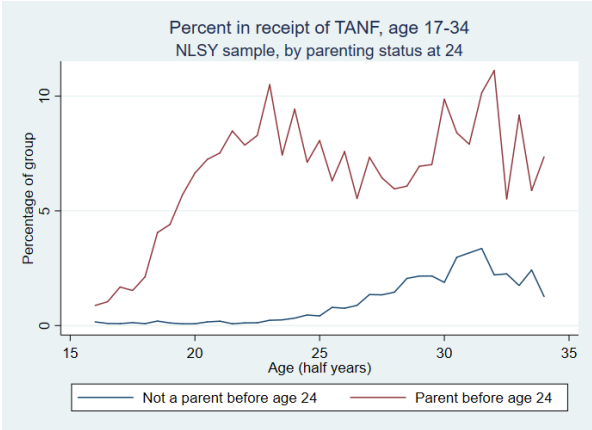


Figure 37: TANF receipt, NLSY sample all members below 100% FPL

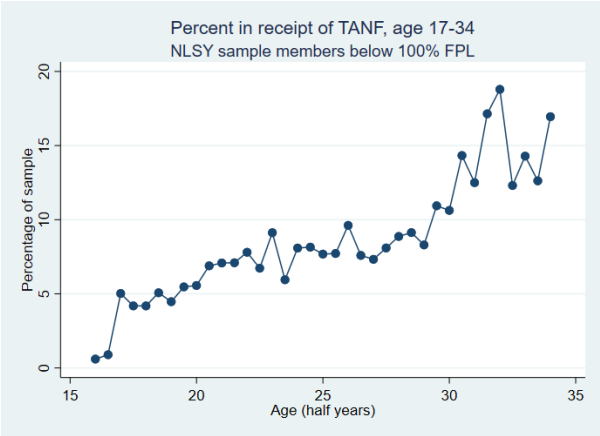


Figure 38: SNAP receipt, NLSY sample all members below 100% FPL

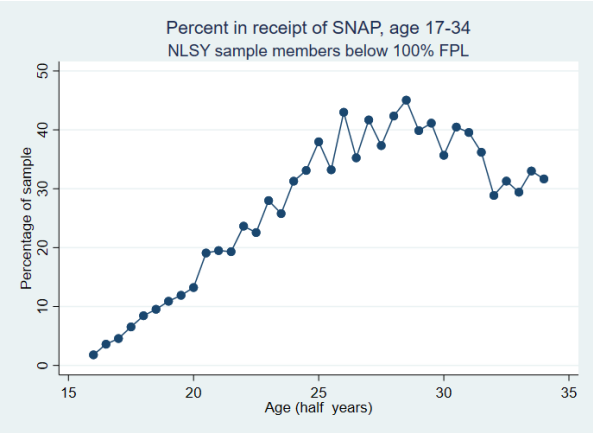


Figure 39: TANF receipt, NLSY sample below 100% FPL by parenting status at 24

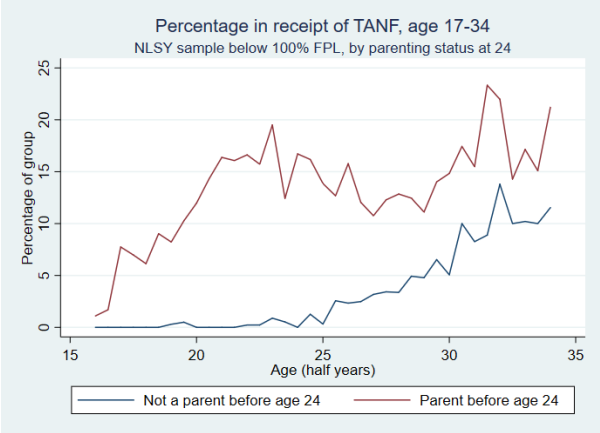


Figure 40: SNAP receipt, NLSY sample below 100% FPL by parenting status at 24

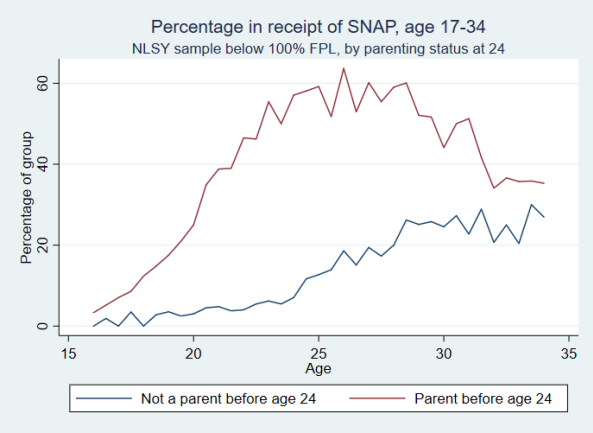


Figure 41: SNAP receipt, NLSY sample by race

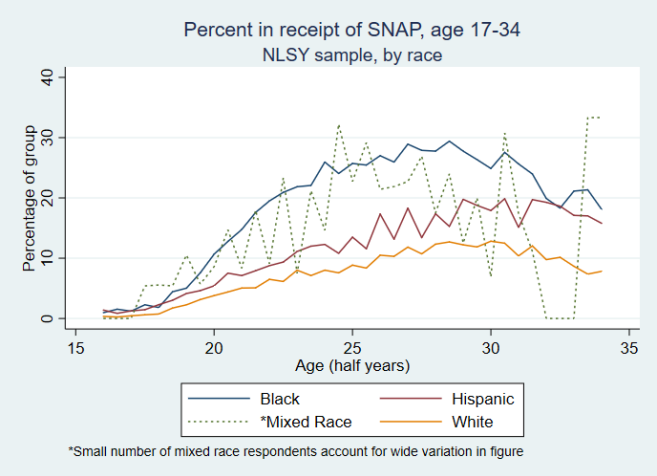
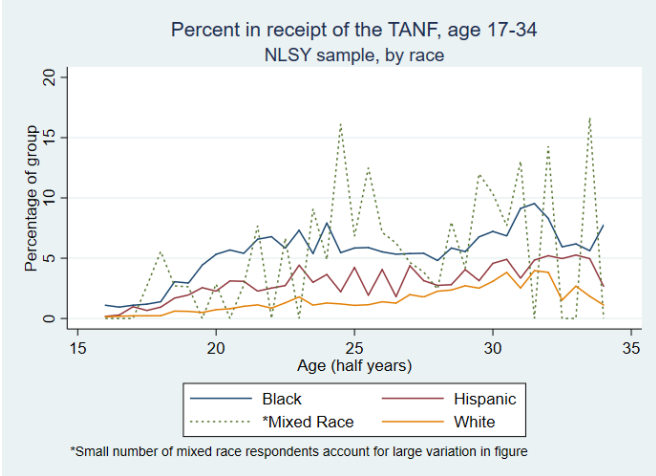


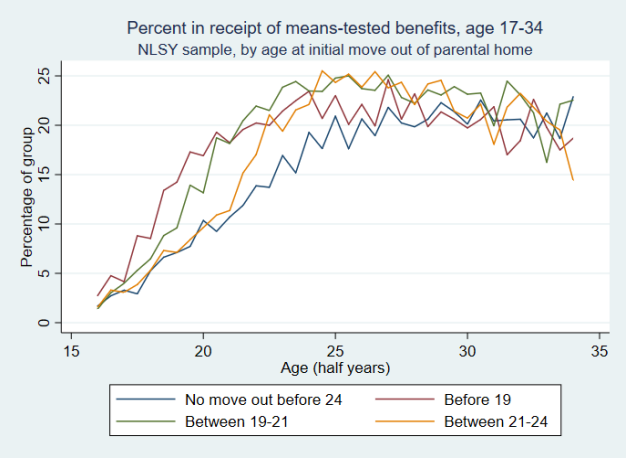
Figure 42: TANF receipt, NLSY sample by race



Case-specific issues: residential transitions

A unique feature of the NLSY dataset is the information provided on residential independence, measured by when a respondent made the initial move out of their parental home for more than three months. This measure has four categories, with early movers (before 19), middle range movers (19-21 and 21-24) and late movers (21-24). Figure 43 provides evidence which can advise whether the age of initial move out should be considered with benefit receipt in interaction terms. While there is indeed variation in receipt particularly in the youth period to age 24, there is far less between the groups that leave before age 24. However, by age 24 the difference between all groups is small: respondents who make the initial move out early have higher proportions of respondents in receipt of benefits (around 22%) while those who leave after 24 have around 19% of the group in receipt. After the youth period it is more difficult to identify systematic variation by this characteristic; therefore, it is not particularly relevant to include this in an interaction term with benefit receipt.

Figure 43: Benefit receipt (any), NLSY sample by age at initial move out



The second unique covariate in the NLSY dataset to consider alongside the age at initial move out is whether the respondent moved back in with their parents, which aims to determine if any level of 'boomerang' impacts are present for this sample. Table 15 indicates that respondents in the sample who moved out earlier in the youth period have a higher proportion of those who move back at least once: 71% of those who move out initially before 19 and 67% of those who move out between 19 and 21 move back in at least once. Conversely, around 73% those who don't move out before age 24 never move back; a relationship that is statistically significant. This suggests that respondents who stay in their

parental home, supported residentially and financially, are thus more likley to make a one-time, permanent exit to residential independence while others have the 'boomerang' experience. Results from these two measures can also provide more explicit evidence on the impact of family resources, provided in this case through longer periods co-residence or the ability to move back in if needed.

Table 15: Cross Tabulation of age at move out and if respondent ever moved back after initial move out

	Moved back after initial move out		
Age at initial move out	**No**	**Yes**	**Total**
Before 19	28.38%	71.62%	100.00%
Between 19-21	32.64%	67.36%	100.00%
Between 21-24	46.65%	52.35%	100.00%
After 24	73.09%	26.91%	100.00%
Total	45.50%	54.50%	100.00%

Pearson chi2 = 997.36, Pr = 0.000, Cramer's V = 0.35

5.2 NLSY Annual Wages Measure and Descriptives

Description of outcome measure

The NLSY measure of annual wage income is one of the individual measures of economic independence, here detailing individual performance in the labour market that includes both salary income and other wage income (adjusted for inflation to 2013 $). An annual measure of wage income is able to accurately capture total income earned in the labour market, even if respondents may be in involved in seasonal or part time work. The overall trend in wage growth for this sample is shown in Figure 44, and details a linear trend from youth to adulthood. As mentioned in the benefit receipt figures, the drop in wages reported in the last two age groups (age 33.5 and 34) are due to the smaller sample size reported for these respondents. As with the descriptive figures on benefit receipt, it is valuable here to produce descriptive figures on this outcome variable by the key demographic characteristics of gender, race and young parenthood before modelling.

Figure 44: Annual employment income (mean), total NLSY sample (AFI)

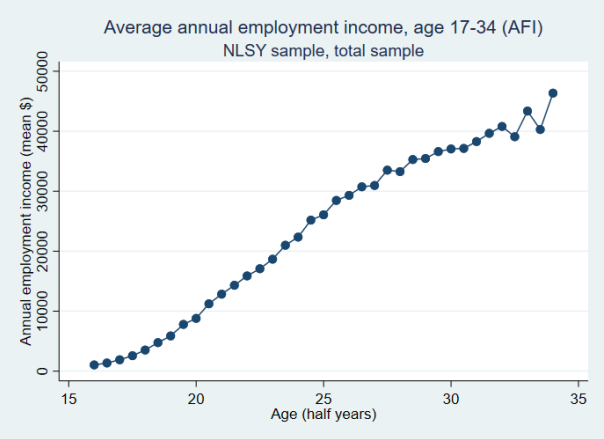


Figure 45 details the growth in wage income by gender, and shows a slow but consistent widening in the average annual wage income between men and women. This gap in annual wage income becomes more prominent after age 24 and widens slightly to around $10,000 by age 30. For modelling purposes, then, it is useful to consider how the overall trend in wage income is influenced by gender in an interaction term of age and gender.

Previous reseach on annual employment income by race reports consistently lower annual wages for Black and Hispanic Americans on average compared to White Americans (detailed in Chapter 2.2). The same type of variation by racial groups is seen in Figure 46 with the income gap widening as respondents age. At age 24 both White and Hispanic

respondents have average incomes at or around $22,000 while Black respondent incomes are around $19,000. After the youth period average incomes diverge further, and by age 30 the average annual wage income for White respondents is around $40,000 while the average for Black respondents is around $30,000. The flatter slope for both Black and Hispanic groups after 24 indicates a slowing of wage growth in adulthood.

Finally, Figure 47 shows particularly wide variation in annual wage income by young parenting status, a gap that widens notably after age 24. Between 24 and 30, the group of respondents who are not young parents have annual wage income increasing to around $40,000, while those who are young parents have average annual wages only around $28,000 by age 30. This suggests that young parents in this sample indeed have systematically different wage outcomes over their lifecourse. The experience of youth parenting is modelled as a main effect in all outcomes but is also an important subgroup to investigate using interaction terms, particulary given the different pattern of benefit receipt shown in Figure 29.

Figure 45: Annual employment income (mean), NLSY sample by gender (AFI)

Figure 46: Annual employment income (mean), NLSY sample by race (AFi)

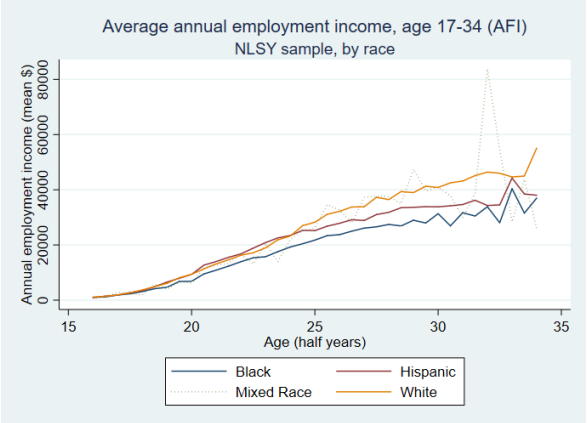


Figure 47: Annual employment income (mean), NLSY sample by parenting status at 24 (AFI)

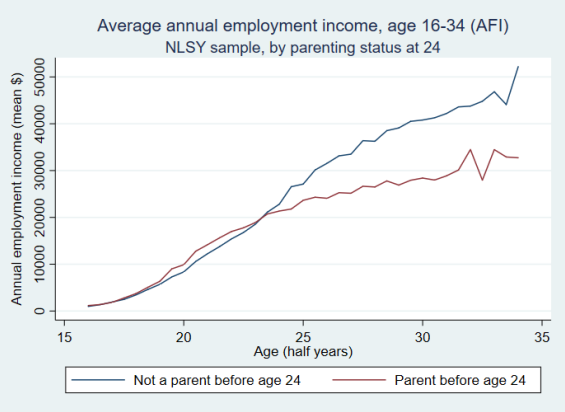
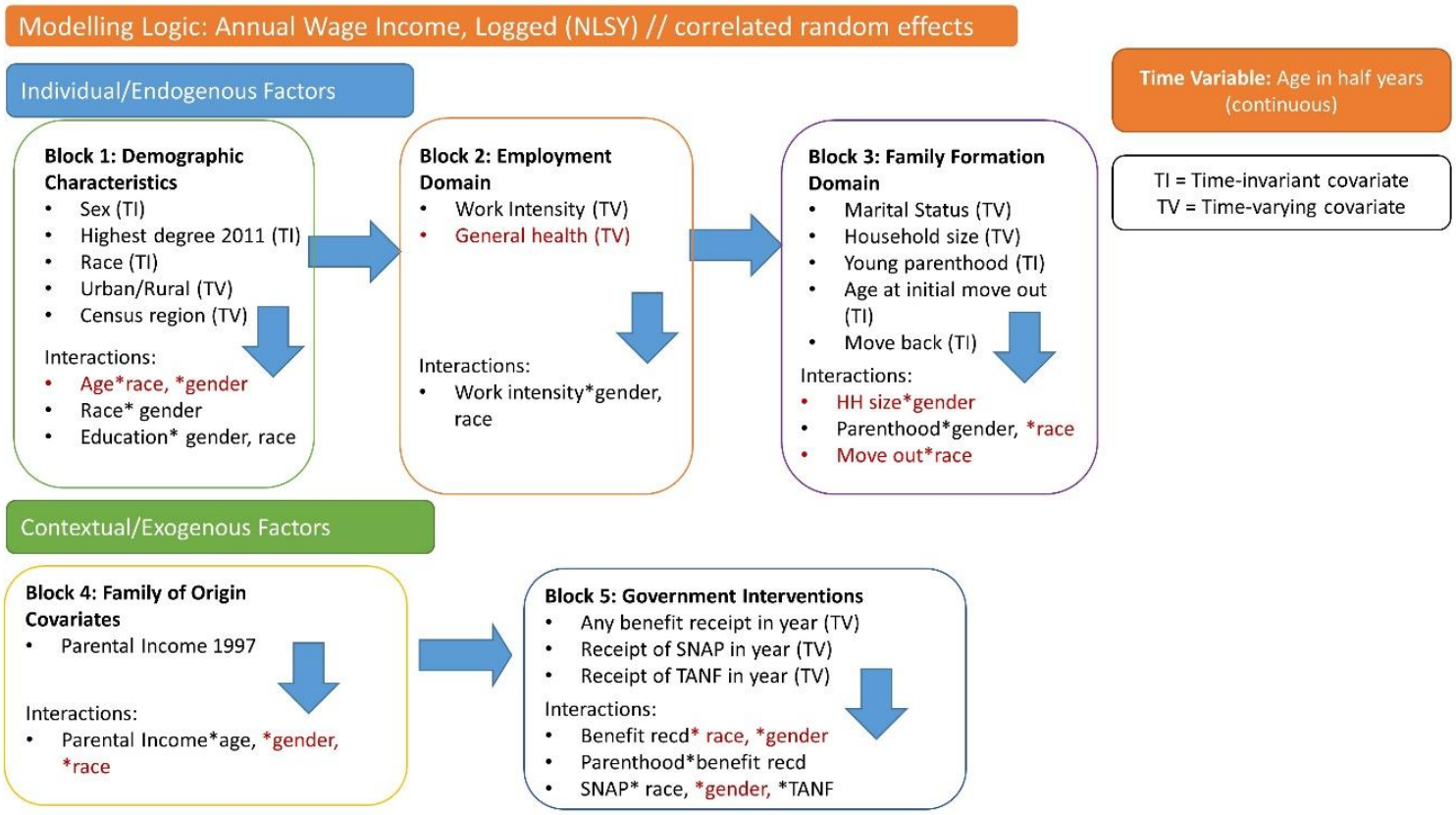


Figure 48: Modelling Logic, NLSY Logged Annual Wage Income (Correlated Random Effects Model)



5.3 Regression Results: NLSY Annual Wage Income, Correlated Random Effects Model

Block 1: Demographic Characteristics (Table 16)

The Block 1 covariate to discuss first is the measure of time, here given in the continous variable age (measured in half years). Annual logged wages increase as respondents age; by 0.19 per half year at the end of Block 1 and by 0.16 in the Block 5 model. Gender is also a significant main effect in Block 1, as women had wages -0.31 lower on average than men in the sample. The significant difference in model outcomes between men and women remains throughout and suggests that gender will be informative as a moderating variable in interaction terms (Tables 17 and 18). As mentioned in Chapter 2.2, there are a far greater percentage of respondents in the US youth population who enter some form of higher education, and a school leaving age set at age 18 ensures that most respondents achieve a high school diploma at the very least. Therefore those who do not have any qualifications have much poorer economic outcomes, with the largest gaps in effect sizes on the education covariate in the Block 1 model between those with no qualifications and those with AA (0.69), Bachelor's (0.59) or Master's Degrees (0.61)[49]. There are two geographic variables included generally as control variables, Census region and urban/rural classification: while in some of the models there are significant differences within these covariates, they are not the focus of this investigation and therefore will not be fully detailed here. The final Block 1 main effect covariate of interest is the race of the respondent, with significant results for Black respondents and Mixed Race[50] respondents. The results indicate wages for Black respondents -0.35 units lower than White respondents; a significant gap that persists even when controlling for education, labour market attachment and parental background in the Block 5a iteration (Black coeff = -0.10).

[49] The insignificant results on the PhD coefficient seems uncharacteristic, but the time period covered in this survey must be considered when viewing this estimation of wages. Data only extends to the early 30s for this sample of respondents, shortly after sample members will have completed their PhD, and therefore the results may be unsurprising. This also means that this group of respondents is much smaller than those with other degree types.

[50] As mentioned in the descriptive figures, there are very few respondents who identified themselves as Mixed Race in 1997 and this group was not considered for oversampling by survey administrators. Therefore, although results for this group are reported in the regression tables they will not be explicated in the narrative.

Block 1 interactions (Table 17)

Although many interaction terms were tested for among Block 1 covariates only three were found to be signficant: education and gender, race and gender, and education and race. What is perhaps surprising in the Block 1 interactions is that there are no significant interactions between age and race and age and gender, indicating that the impact of age on wages does not differ between men and women or between racial groups.

The interaction of education and gender is included to test whether one's education level has different impacts on wage income for men and women. The positive results on the education and gender interaction term at every education level indicates that for women there is a larger additive effect of higher education for a female's wage trajectory. This is particularly notable when some level of college is attained or more (interaction coefficients of 0.38 and above). The results suggest that education is likely a key avenue whereby women change their wage trajectory.

The same type of effect pattern emerges when education level is interacted with race, where Black respondents report significantly different impacts of higher education levels on their wage income. The positive interaction effects of education levels at high school diploma and above indicate that for Black respondents each level of education has a more positive impact on their wages than the same level does when all racial groups are estimated together (in the education main effect). This results in very large differences in wages between Black respondents with no qualifications and those with qualifications at high school or above, given in the large gaps in effect sizes on the interaction terms for Black respondents. Taken with the results from the education and gender interaction this suggests that education serves as a more important component of higher wage growth for women and Black Americans than it does for White or male sample members.

The final interaction seeks to determine whether gender moderates the effect of race on wages. The Black and female interaction term is the only significant interaction, and indicates that the impact of being Black on wages does indeed differ for Black women. Black women in the sample have slightly more positive wage outcomes, by 0.18 logged wages units (interaction term coefficient); however the effect of being Black is still negative for women, here at -0.26 (-0.44 + 0.18 = -0.26). The results here are consistent with what is known about the labour market performance of different racial and gender groups, with Black men in general experiencing lower wage growth than any other demographic group.

Block 2: Employment Domain (Table 16)

The impact of employment domain experiences on one's wage trajectory is measured in this model by the work intensity covariate, created using the measure of weeks worked per year, and ranges from very low work intensity (0-10 weeks per year) to very high work intensity (45-52 weeks per year), a five category ordinal measure[51]. The second covariate added in this block was general health, which was found to be insignificant. The measure of work intensity acts as expected, with higher work intensity categories reporting larger and more positive effects on annual wages compared to those in very low work intensity. The inclusion of work intensity in this model mediates the effect most notably of the race covariate for Black respondents (reducing the coefficient from -0.35 to -0.22), and suggests that the effects of work intensity may differ by racial group in an interaction term.

Block 2 interactions (Table 17)

The interaction term on work intensity and race shows significantly different impacts of work intensity on wages for Black respondents at both the low and very high work intensity categories, and Hispanic respondents at very high work intensity. The most notable result from this interaction is for Black and Hispanic respondents in the very high work intensity category. The negative interaction terms at this work intensity level for Black and Hispanic respondents indicates that those who are Black or Hispanic receive a lower amount of compensation for higher work intensity (defined as attachment throughout the year) on average (coeff = -0.18).

When work intensity is investigated in an interaction term with gender the results show that working at a higher level of intensity impacts women's wages more positively at all levels (coefficients ranging from 0.31 to 0.20). This indicates that the amount that women work within the year matters more to their wages than it does to men's wages, and that women in higher work intensity categories are better off than their female counterparts who are less attached to the labour market.

Block 3: Family Formation Domain (Table 16)

The family formation covariates of marriage and household size report that married respondents have higher wages than those who are not married and household size has a

[51] This measure is used at the outcome measure in the work intensity model in Chapter 5.4 and is detailed more thoroughly there.

negative (albeit small) impact on a respondent's wage trajectory. It will be valuable to investigate if the negative impact of household size is consistent among different genders, particularly given what is known about men's and women's wages and family change. The two residential independence covariates show significant effects, with slightly higher wage trajectories for respondents who leave their parental home before age 24. This seems to suggest that leaving home earlier in the youth period is a positive factor in one's wage trajectory, likely because attachment to the labour market is higher (and therefore annual wage income is higher) out of necessity. However, the negative result on wages for those who have at least one move back in with their parents (coeff = -0.07) suggests that moving back may temper the positive aspects of leaving early.

Finally, the main effect of young parenthood on wages does not show a statistically significant difference in the wage trajectory between those who do and do not have children in the youth period (coeff = -0.03), although the covariate does show a negative effect size for young parents. Based on previous evidence on the different impacts of young parenthood by gender in Chapter 2.2 an interaction term will be useful to test for.

Block 3 interactions (Table 18)

The household size and gender interaction indicates that women in the sample experience a harsher wage penalty as their household size increases by one, with a wage penalty of -0.12 (-0.09 -0.03 = -0.12) compared to the overall household size effect of -0.09. A second family formation factor, the experience of young parenthood, also has a more negative impact on female wages (interaction coeff = -0.15), confirming that females in the sample are more likely to be negatively impacted by young parenthood. Because of both the significance of the young parenthood interaction terms and evidence on young parents' interaction with the benefit system, this interaction term (in Model 3b) is carried forward into the Block 4 and Block 5 iterations in Table 16.

Block 4: Parental Background (Table 16)

The coefficients for the parental income covariate are relatively unsurprising and indicate greater positive impacts on wages for those from higher income quintiles. Respondents from all income quintiles have significantly different wages than those from the poorest income quintile, with the largest difference in outcomes for those from quintile 5 (coeff = 0.18 in Block 4 model). The addition of parental income quintile also serves to control for

the independent effect notably of race, as the negative race effect size for Black respondents is reduced and the positive race effect size for Hispanic respondents is increased. This confirms that part of the independent race effect is captured by parental background. Parental income does not markedly change the results on the young parenthood covariates in the Block 4 model, which might be unexpected given the relationship between parental background and young parenting.

Block 4 interactions (Table 18)

It is valuable to investigate whether and to what extent a factor like parental background changes as respondents age, and may provide evidence of how parental background may continue to impact an individual well into adulthood. The positive results on all the interaction terms indicate that the difference in wages between income quintiles increases with age, as those in the highest income quintile experience larger wage growth with each half year than those in quintile 1 (interaction coeff = 0.05), and have notably higher wage increases than those in both quintile 2 and 3 comparatively. With each half year, then, the wages of those in the top two quintiles continue to increase while those in the bottom three stay relatively flat though the survey period. This suggests that the impact of parental income persists through the youth period and widens into adulthood.

Block 5: Government interventions (Table 16)

After controlling for all factors in Blocks 1 through 4, the result of the main effect of any benefit receipt in Block 5a indicates that the wage trajectory of benefit recipients is not statistically significant in the main effects model, and therefore not significantly different than the wage trajectory of non-benefit recipients; potentially surprising given the results in the descriptive figures. Even though this covariate is not significant as a main effect, the value of controlling for benefit receipt and its relationships with and impacts on other covariates is most valuable to analyse here. Perhaps the largest change in other coefficients occurs for the young parenthood main effect and the young parenthood and gender effect (for women). The negative effect sizes on the young parenthood covariate have been reduced such that now there is no difference in the impact of young parenthood between men and women (interaction effect reduced to 0.007). Therefore, the effect of young parenthood for both gender groups is similar and positive for one's wage trajectory compared to those who are not young parents (Model 5a). Both these results indicate that benefits, especially for this target group, is a notable and potentially positive factor in the

way that women and young parents experience wage growth in the youth period. There are also relatively large changes in effect sizes for Black respondents when any benefit receipt is included in the model, reducing the negative independent impact of being Black on wages to -0.10. This suggests that benefit receipt can also partially explain the lower wage outcomes for Black respondents, as the variation is further explained by the inclusion of a benefit receipt covariate.

The second model iteration for Block 5 (Model 5b) models the impact of SNAP and TANF separately. In this model both the SNAP and TANF main effects show significant and negative coefficients, as those who receive SNAP have a -0.16 lower wage trajectory and those who receive TANF have a -0.12 lower wage trajectory than those who do not receive those benefits. The results on other covariates such as young parenting and race in this model also change similarly (albeit to a lesser extent) as they did in Model 5a. This suggests again that although SNAP and TANF have long term negative impacts on one's wage trajectory as main effects, for some subpopulations that receive them in higher proportions (young parents and Black respondents most notably) SNAP may also be a mediating factor on the negative impacts of these characteristics on one's wage trajectory.

Block 5 interactions (Table 18)

The three significant interaction terms in this model are any benefit receipt and young parenthood, SNAP receipt and race, and SNAP and TANF receipt[52]. In the benefit receipt and young parenthood interaction, benefit receipt is not found to not harm the wage trajectory of young parents (given in the positive interaction term, coeff = 0.27), and together the main effect of benefit receipt and additive interaction effect for young parents show a positive and significant relationship of benefit receipt to more positive wage trajectories for the young parenting group (bold coefficient = 0.09). This suggests that for the young parent target group the experience of benefit receipt has a positive relationship with a higher wage trajectory outcome.

The results on the second significant interaction term, SNAP and race, indicates that the impacts of receiving SNAP on wages differs for Black respondents. The interaction term on the SNAP and Black coefficient reports positive additive effects of SNAP for Black

[52] The interaction terms included here are estimated on models without the young parenthood and gender interaction term included, meant to focus primarily on the results on the interaction terms of interest.

respondents (interaction coeff = 0.13). Although Black SNAP recipients do still have lower wage trajectories (bold coefficient = -0.08), they are not as negatively impacted by this experience as other racial groups.

Effects of SNAP receipt also differ between respondents who do and do not receive TANF, where the additive effects of receiving SNAP are positive for respondents who are also receiving TANF (interaction coeff = 0.29). The receipt of SNAP for TANF recipients on average indicates a positive impact on wages for this group (bold coeff = 0.12), suggesting that SNAP is a positive factor in the wage trajectories of the poorest sample members.

Summary

The model of wage income for this cohort showed that the demographic characteristics of gender and race are persistent factors in a respondent's wage trajectory, even when controlling for other endogenous and exogenous factors. Gender in particular was found to moderate the impact of education, work intensity, and household size, where higher education levels and higher work intensity have larger impacts on the wages of women than men in the sample. Among family formation factors, females also have more negative wage penalties as their household size increases and if they become young parents.

Race is a salient factor in wage outcomes for Black respondents in particular, as there is a negative impact of race for this group even as all other factors are controlled for. The impact of a respondent's race on their wages is particularly prominent and negative for men, even as Black respondents also have larger wage gains from higher levels of education. Notably, race also moderates the impact of work intensity, with results suggesting that Black and Hispanic respondents do not receive the same annual wage gains from working at a higher level of intensity compared to White respondents.

The receipt of government assistance was not found to have negative impacts on wages among recipients in the long term when compared to those with no receipt history, but further investigation showed that these impacts are not the same for all respondents, particularly for respondents in the groups that are more likely to interact with government assistance (young parents and Black respondents). The results for young parents suggests that benefit receipt has a positive association with higher wages, and benefit receipt was found to have a lower negative impact on wages for Black respondents compared to White respondents. Controlling for benefit receipt in a model of wages also reduces the negative

impacts of young parenthood for females in particular, and suggests that benefits are a notable factor in the relationship between female young parents and wages growth. The final interaction to consider is that for SNAP recipients who also receive TANF, as the positive interaction coefficient results for TANF and SNAP recipients suggest that SNAP is a positive factor in the wage trajectory for the poorest sample members.

Table 16: Correlated Random Effects Models of logged annual employment Income, NLSY 1997 main effects (Blocks 1-5)

	Block 1		Block 2		Block 3a		Block 4		Block 5a		Block 5b	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Age	0.19***	(200.68)	0.17***	(182.71)	0.15***	(149.46)	0.15***	(149.55)	0.16***	(149.53)	0.16***	(149.76)
Female	-0.31***	(-18.64)	-0.30***	(-20.01)	-0.31***	(-21.03)	-0.26***	(-14.46)	-0.23***	(-13.26)	-0.23***	(-13.33)
Race (White)												
Black	-0.35***	(-16.49)	-0.22***	(-11.58)	-0.15***	(-7.70)	-0.13***	(-6.44)	-0.10***	(-4.93)	-0.09***	(-4.44)
Hispanic	-0.03	(-1.28)	-0.02	(-0.98)	0.02	(1.23)	0.05*	(2.20)	0.05*	(2.26)	0.04	(1.79)
Mixed Race	-0.23**	(-2.65)	-0.10	(-1.27)	-0.07	(-0.97)	-0.06	(-0.88)	-0.04	(-0.56)	-0.03	(-0.47)
Educ (No quals)												
GED	0.27***	(7.16)	0.21***	(6.12)	0.19***	(5.85)	0.19***	(5.82)	0.16***	(4.96)	0.16***	(4.80)
HS Diploma	0.55***	(17.13)	0.34***	(11.36)	0.30***	(10.56)	0.30***	(10.09)	0.22***	(7.59)	0.20***	(7.13)
AA	0.69***	(16.47)	0.43***	(11.47)	0.38***	(10.10)	0.36***	(9.66)	0.28***	(7.52)	0.26***	(7.01)
Bachelor's Deg	0.59***	(16.98)	0.33***	(10.44)	0.27***	(8.25)	0.23***	(7.04)	0.12***	(3.82)	0.11***	(3.50)
Master's Deg	0.61***	(12.82)	0.34***	(7.97)	0.27***	(6.34)	0.23***	(5.30)	0.12**	(2.75)	0.11*	(2.55)
PhD	0.32	(1.73)	0.10	(0.61)	-0.03	(-0.20)	-0.09	(-0.54)	-0.20	(-1.25)	-0.21	(-1.35)
Prof Degree	0.44***	(5.21)	0.42***	(5.56)	0.34***	(4.60)	0.30***	(4.01)	0.18*	(2.52)	0.17*	(2.30)
Geo (Rural)												
Urban	0.14***	(9.89)	0.11***	(8.28)	0.07***	(5.59)	0.07***	(5.60)	0.07***	(5.63)	0.07***	(5.49)
Unknown	0.24***	(9.35)	0.24***	(9.89)	0.18***	(7.31)	0.18***	(7.29)	0.18***	(7.31)	0.18***	(7.23)
Geog (mean)	*-0.10***	*(-3.18)*	*-0.05*	*(-1.84)*	*-0.001*	*(0.13)*	*-0.001*	*(0.04)*	*-0.001*	*(-0.05)*	*0.005*	*(0.20)*
Census Reg (NE)												
North Central	-0.08**	(-2.95)	-0.10***	(-4.17)	-0.13***	(-5.76)	-0.14***	(-5.76)	-0.12***	(-5.26)	-0.12***	(-5.14)
South	0.02	(0.86)	0.02	(0.95)	-0.02	(-0.87)	-0.02	(-0.83)	-0.02	(-0.67)	-0.02	(-0.61)
West	0.11**	(2.98)	0.12***	(3.29)	0.08*	(2.17)	0.07*	(2.10)	0.08*	(2.36)	0.08*	(2.39)
Census (mean)	*-0.05****	*(-3.55)*	*-0.04***	*(-3.08)*	*-0.04***	*(-2.80)*	*-0.04***	*(-2.76)*	*-0.04***	*(-3.24)*	*-0.04***	*(-3.24)*
Work Int (V.low)												
Low work int			0.06**	(3.01)	0.07***	(3.96)	0.07***	(3.96)	0.08***	(3.98)	0.07***	(3.91)
Med work int			0.21***	(8.98)	0.22***	(9.47)	0.22***	(9.46)	0.22***	(9.41)	0.22***	(9.31)
High work int			0.43***	(25.06)	0.43***	(25.76)	0.43***	(25.78)	0.43***	(25.73)	0.43***	(25.44)
V high work int			0.76***	(49.69)	0.74***	(49.44)	0.74***	(49.46)	0.74***	(49.15)	0.73***	(48.41)
Work int (mean)			*0.21****	*(22.17)*	*0.21****	*(22.47)*	*0.20****	*(21.59)*	*0.18****	*(19.93)*	*0.18****	*(19.62)*
Household size					-0.10***	(-35.64)	-0.10***	(-35.57)	-0.10***	(-35.16)	-0.10***	(-34.88)
HH size (mean)					*0.07****	*(8.89)*	*0.07****	*(9.07)*	*0.09****	*(11.19)*	*0.08****	*(10.14)*
Married					0.20***	(16.34)	0.20***	(16.28)	0.20***	(16.18)	0.20***	(16.10)
Mar Stat (mean)					*0.10**	*(3.12)*	*0.09**	*(2.78)*	*0.09**	*(2.87)*	*0.06*	*(1.96)*
Young parenting					-0.03	(-1.43)	0.06*	(2.55)	0.13***	(5.42)	0.10***	(3.98)

YParent*Female							-0.15***	(-4.87)	-0.007	(-0.24)	-0.05	(-1.47)
							-0.09		**0.12**		**0.05**	
Moved out (> 24)												
Before 19					0.17***	(7.48)	0.17***	(7.53)	0.19***	(8.71)	0.19***	(8.62)
Between 19-21					0.17***	(7.81)	0.17***	(7.91)	0.19***	(9.06)	0.19***	(9.08)
Between 21-24					0.10***	(4.72)	0.10***	(4.81)	0.12***	(5.67)	0.12***	(5.70)
Moved back					-0.07***	(-4.40)	-0.07***	(-4.66)	-0.07***	(-4.51)	-0.06***	(-4.29)
Parental Inc (Q1)												
Quintile 2							0.09**	(3.26)	0.07**	(2.83)	0.08**	(2.96)
Quintile 3							0.14***	(5.08)	0.11***	(4.27)	0.12***	(4.33)
Quintile 4							0.14***	(5.03)	0.10***	(3.79)	0.11***	(4.03)
Quintile 5							0.18***	(6.27)	0.14***	(4.84)	0.15***	(5.29)
Missing							0.13***	(5.36)	0.11***	(4.51)	0.11***	(4.65)
Benefit recipient									-0.009	(-0.64)		
Ben recd (mean)									*-0.73****	*(-15.64)*		
SNAP recipient											-0.16***	(-9.53)
SNAP recd (mean)											*-0.65****	*(-10.61)*
TANF recipient											-0.12***	(-3.55)
TANF recd (mean)											*-0.06*	*(-0.50)*
Constant	4.65***	(88.36)	4.09***	(77.62)	4.43***	(69.98)	4.32***	(66.12)	4.42***	(68.51)	4.41***	(68.13)
Between var	0.60***	(84.23)	0.52***	(80.57)	0.50***	(79.64)	0.50***	(79.33)	0.48***	(77.86)	0.48***	(77.61)
Within var	0.89***	(320.89)	0.86***	(321.42)	0.85***	(321.40)	0.85***	(321.40)	0.85***	(321.35)	0.85***	(320.89)
Observations	59296		59296		59296		59296		59296		59164	
Cases	7037		7037		7037		7037		7037		7035	

Displayed are the coefficients from a correlated random effects model of logged monthly wages with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.05

Table 17: Correlated Random Effects Models of logged annual employment income, NLSY 1997 interaction effects (Blocks 1-2)

	Educ* Gender		Educ* Race		Race* Gender		Work Int*Race		Work Int * Gender	
	Coeff	t	Coeff	t	Coeff	t	Coeff	t	Coeff	t
Age	0.19***	(200.68)	0.19***	(200.69)	0.19***	(200.65)	0.17***	(182.76)	0.17***	(182.59)
Female	-0.62***	(-10.47)	-0.32***	(-19.26)	-0.35***	(-15.09)	-0.30***	(-20.22)	-0.63***	(-13.02)
Educ (No quals)										
GED	0.18***	(3.59)	0.30***	(4.99)	0.28***	(7.27)	0.20***	(5.97)	0.20***	(5.93)
HS Diploma	0.45***	(10.93)	0.45***	(8.78)	0.54***	(17.08)	0.33***	(11.37)	0.33***	(11.44)
AA	0.52***	(8.94)	0.56***	(8.93)	0.69***	(16.35)	0.43***	(11.33)	0.42***	(11.16)
Bachelor's	0.36***	(7.80)	0.43***	(8.26)	0.60***	(16.98)	0.32***	(10.26)	0.32***	(10.08)
Masters	0.28***	(3.88)	0.40***	(6.09)	0.61***	(12.73)	0.34***	(7.83)	0.33***	(7.64)
PhD	-0.37	(-1.10)	0.23	(1.14)	0.33	(1.77)	0.10	(0.61)	0.07	(0.44)
Prof Deg	0.07	(0.58)	0.24*	(2.31)	0.44***	(5.13)	0.40***	(5.28)	0.40***	(5.36)
Educ*Gender										
GED*Female	0.23**	(3.02)								
HS Dip*Female	0.23***	(3.63)								
AA*Female	0.38***	(4.53)								
Bach*Female	0.49***	(7.05)								
Mast*Female	0.63***	(6.54)								
PhD*Female	1.12**	(2.76)								
Prof*Female	0.77***	(4.54)								
Race										
Black	-0.36***	(-16.80)	-0.72***	(-10.10)	-0.44***	(-15.14)	-0.49***	(-8.86)	-0.23***	(-11.74)
Hispanic	-0.03	(-1.39)	-0.01	(-0.20)	-0.004	(-0.12)	-0.14**	(-2.85)	-0.02	(-0.94)
Mixed Race	-0.20*	(-2.42)	-0.92*	(-2.40)	-0.19	(-1.57)	-0.48***	(-3.59)	-0.09	(-1.17)
Geog (Rural)										
Urban	0.14***	(9.90)	0.14***	(9.95)	0.14***	(9.86)	0.11***	(7.99)	0.11***	(8.23)
Unknown	0.24***	(9.34)	0.24***	(9.33)	0.24***	(9.36)	0.24***	(9.85)	0.24***	(9.77)
Geog (mean)	*-0.09***	*(-2.86)*	*-0.10****	*(-3.21)*	*-0.10****	*(-3.37)*	*-0.05**	*(-1.87)*	*-0.05*	*(-1.93)*
Census Reg (NE)										
North Central	-0.08**	(-2.99)	-0.07**	(-2.8)	-0.08**	(-2.97)	-0.10***	(-4.17)	-0.10***	(-4.18)
South	0.02	(0.86)	0.02	(0.80)	0.02	(0.82)	0.02	(0.79)	0.02	(0.90)
West	0.11**	(2.97)	0.11**	(3.05)	0.11**	(3.00)	0.11**	(3.12)	0.11***	(3.24)
Census (mean)	*-0.05****	*(-3.59)*	*-0.05****	*(-3.75)*	*-0.05****	*(-3.50)*	*-0.04***	*(-3.08)*	*-0.04***	*(-2.97)*
Race*Gender										
Black* Female					0.18***	(4.56)				

Hisp* Female			-0.05	(-1.22)				
Mixed*Female			-0.07	(-0.42)				
Educ*Race								
GED*Black	0.03	(0.38)						
HS Dip*Black	0.36***	(4.70)						
AA*Black	0.53***	(5.26)						
Bach*Black	0.64***	(7.43)						
Mast*Black	0.84***	(7.00)						
PhD*Black	0.25	(0.48)						
Prof*Black	0.96***	(4.03)						
GED*Hispanic	-0.11	(-1.23)						
HS Dip*Hispanic	-0.05	(-0.70)						
AA*Hispanic	-0.12	(-1.17)						
Bach*Hispanic	0.03	(0.40)						
Mast*Hispanic	0.18	(1.35)						
Prof*Hispanic	0.13	(0.46)						
GED*Mixed	0.64	(1.45)						
HS Dip*Mixed	0.68	(1.66)						
AA*Mixed	1.12*	(2.49)						
Bach*Mixed	0.64	(1.55)						
Mast*Mixed	0.63	(1.03)						
Prof*Mixed	0.58	(0.77)						
Work Int (V.low)								
Low					-0.005	(-0.19)	-0.08**	(-3.19)
Medium					0.24***	(7.27)	0.10**	(3.08)
High					0.45***	(19.15)	0.32***	(13.78)
Very high					0.83***	(39.08)	0.67***	(32.31)
Work Int*Race								
Low*Black					0.18***	(3.87)		
Med*Black					-0.06	(-1.10)		
High*Black					-0.04	(-1.08)		
V. high*Black					-0.15***	(-4.34)		
Low*Hispanic					0.08	(1.70)		
Med*Hispanic					-0.05	(-0.86)		
High*Hispanic					-0.08	(-1.81)		
V. high*Hispanic					-0.18***	(-4.78)		
Low*Mixed					0.38*	(2.08)		
Med*Mixed					0.30	(1.46)		

High*Mixed							0.45**	(2.80)		
V. high*Mixed							0.26	(1.94)		
Work int (mean)							*0.34****	*(16.22)*	*0.12****	*(4.51)*
*WorkInt*Race*							*-0.05****	*(-7.05)*		
Work Int*Gender										
Low*Female									0.31***	(7.94)
Med*Female									0.24***	(5.18)
High*Female									0.23***	(6.64)
V. high*Female									0.20***	(6.68)
*WorkInt*Gender*									*0.06***	*(3.16)*
Constant	4.77***	(83.45)	4.77***	(74.83)	4.67***	(87.87)	4.22***	(71.48)	4.26***	(74.13)
Between var	0.60***	(83.79)	0.59***	(83.61)	0.60***	(84.17)	0.52***	(80.51)	0.52***	(80.24)
Within var	0.90***	(320.86)	0.89***	(320.88)	0.89***	(320.93)	0.86***	(321.44)	0.86***	(321.36)
Observations	59296		59296		59296		59296		59296	
Cases	7037		7037		7037		7037		7037	

Displayed are the coefficients from a correlated random effects model of logged monthly wages with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.05

Table 18: Correlated Random Effects Models of logged annual employment income, NLSY 1997 interaction effects (Blocks 3-5)

	Y Parent* Gender Coeff	t	HH size*Gender Coeff	t	Parental Inc*Age Coeff	t	Ben Recd *Y Parent Coeff	t	SNAP *Race Coeff	t	SNAP *TANF Coeff	t
Age	0.15***	(149.53)	0.15***	(149.62)	0.14***	(52.21)	0.16***	(149.91)	0.16***	(149.82)	0.16***	(149.82)
Female	-0.26***	(-14.61)	-0.20***	(-3.95)	-0.31***	(-20.83)	-0.24***	(-15.83)	-0.25***	(-16.68)	-0.25***	(-16.54)
Young parenting	0.05*	(2.23)	-0.02	(-1.21)	-0.02	(-1.08)	0.06**	(2.81)	0.07***	(3.98)	0.08***	(4.21)
YParent*Female	-0.15***	(-4.89)										
Race												
Black	-0.15***	(-7.86)	-0.15***	(-7.74)	-0.12***	(-6.26)	-0.09***	(-4.63)	-0.09***	(-4.05)	-0.08***	(-4.36)
Hispanic	0.02	(1.08)	0.02	(1.23)	0.05*	(2.49)	0.05*	(2.24)	0.04*	(2.14)	0.04	(1.82)
Mixed Race	-0.06	(-0.88)	-0.07	(-0.98)	-0.06	(-0.85)	-0.05	(-0.71)	-0.06	(-0.82)	-0.04	(-0.57)
Educ (No quals)												
GED	0.20***	(5.97)	0.20***	(5.92)	0.19***	(5.72)	0.16***	(5.01)	0.15***	(4.68)	0.15***	(4.71)
HS Dip	0.31***	(10.88)	0.30***	(10.67)	0.28***	(9.74)	0.22***	(7.63)	0.20***	(6.94)	0.20***	(7.01)
AA	0.39***	(10.38)	0.38***	(10.16)	0.35***	(9.41)	0.27***	(7.42)	0.25***	(6.85)	0.26***	(6.95)
Bachelor's	0.27***	(8.36)	0.27***	(8.30)	0.23***	(6.91)	0.11***	(3.39)	0.11***	(3.37)	0.11***	(3.34)
Master's	0.27***	(6.31)	0.27***	(6.30)	0.23***	(5.29)	0.10*	(2.36)	0.11**	(2.49)	0.10*	(2.42)
PhD	-0.04	(-0.24)	-0.04	(-0.24)	-0.08	(-0.48)	-0.21	(-1.34)	-0.21	(-1.35)	-0.22	(-1.38)
Prof Deg	0.34***	(4.60)	0.34***	(4.56)	0.30***	(4.08)	0.16*	(2.24)	0.16*	(2.35)	0.16*	(2.21)
Geog (Rural)												
Urban	0.07***	(5.60)	0.07***	(5.60)	0.07***	(5.29)	0.07***	(5.61)	0.07***	(5.50)	0.07***	(5.48)
Unknown	0.18***	(7.30)	0.18***	(7.35)	0.17***	(7.01)	0.18***	(7.29)	0.18***	(7.26)	0.18***	(7.22)
Geog(mean)	*0.004*	*(0.15)*	*-0.003*	*(-0.11)*	*0.004*	*(0.15)*	*-0.004*	*(-0.15)*	*0.005*	*(0.20)*	*0.005*	*(0.20)*
Census reg (NE)												
North Central	-0.13***	(-5.75)	-0.13***	(-5.75)	-0.14***	(-5.84)	-0.12***	(-5.27)	-0.12***	(-5.14)	-0.12***	(-5.12)
South	-0.02	(-0.85)	-0.02	(-0.85)	-0.03	(-1.02)	-0.02	(-0.69)	-0.02	(-0.59)	-0.01	(-0.60)
West	0.07*	(2.15)	0.07*	(2.19)	0.06	(1.77)	0.08*	(2.37)	0.08*	(2.41)	0.08*	(2.44)
Census (mean)	*-0.04***	*(-2.79)*	*-0.04***	*(-2.82)*	*-0.03**	*(-2.48)*	*-0.04***	*(-3.25)*	*-0.04****	*(-3.27)*	*-0.04***	*(-3.26)*
Work Int (V. low)												
Low	0.08***	(3.99)	0.07***	(3.85)	0.08***	(4.22)	0.07***	(3.83)	0.07***	(3.85)	0.07***	(3.91)
Medium	0.22***	(9.47)	0.22***	(9.39)	0.22***	(9.52)	0.22***	(9.38)	0.21***	(9.29)	0.22***	(9.33)
High	0.43***	(25.77)	0.43***	(25.65)	0.43***	(25.90)	0.43***	(25.70)	0.42***	(25.38)	0.43***	(25.49)
Very high	0.74***	(49.44)	0.74***	(49.23)	0.74***	(49.37)	0.74***	(49.00)	0.73***	(48.33)	0.73***	(48.44)
Work Int (mean)	*0.20****	*(22.03)*	*0.21****	*(22.24)*	*0.20****	*(22.25)*	*0.18****	*(19.88)*	*0.18****	*(19.67)*	*0.18****	*(19.44)*
Household size	-0.10***	(-35.62)	-0.09***	(-22.70)	-0.10***	(-34.54)	-0.10***	(-35.03)	-0.10***	(-34.74)	-0.10***	(-34.81)
HH size (mean)	*0.07****	*(9.28)*	*0.07****	*(3.20)*	*0.07****	*(8.39)*	*0.09****	*(10.96)*	*0.08****	*(10.01)*	*0.08****	*(10.08)*
Married	0.20***	(16.28)	0.20***	(16.17)	0.19***	(14.98)	0.20***	(16.06)	0.21***	(16.19)	0.20***	(16.10)
MarStat (mean)	*0.09**	*(2.94)*	*0.10**	*(3.17)*	*0.11***	*(3.48)*	*0.10**	*(3.29)*	*0.06**	*(1.97)*	*0.06*	*(2.03)*
Moved out (>24)												
Before 19	0.17***	(7.58)	0.17***	(7.53)	0.17***	(7.41)	0.19***	(8.55)	0.19***	(8.61)	0.19***	(8.56)

Between 19-21	0.17***	(7.91)	0.17***	(7.86)	0.17***	(7.81)	0.19***	(8.91)	0.19***	(9.08)	0.19***	(9.07)
Between 21-24	0.10***	(4.77)	0.10***	(4.78)	0.10***	(4.74)	0.12***	(5.62)	0.12***	(5.71)	0.12***	(5.75)
Moved back	-0.07***	(-4.53)	-0.07***	(-4.39)	-0.07***	(-4.48)	-0.06***	(-4.23)	-0.06***	(-4.24)	-0.06***	(-4.06)
HH size*Female			-0.03***	(-5.58)								
*HHsize*gender*			*-0.001*	*(-0.06)*								
Moved out*Race												
Before 19*Black												
Before 19*Hisp												
Before 19*Mixed												
19-21* Black												
19-21* Hisp												
19-21* Mixed												
21-24* Black												
21-24* Hisp												
21-24* Mixed												
Parental Inc (Q1)												
Quintile 2					-0.12	(-1.30)	0.07**	(2.68)	0.08**	(2.95)	0.07**	(2.85)
Quintile 3					-0.08	(-0.88)	0.12***	(4.19)	0.12***	(4.33)	0.11***	(4.21)
Quintile 4					-0.51***	(-5.88)	0.10***	(3.68)	0.11***	(4.02)	0.10***	(3.88)
Quintile 5					-1.04***	(-11.95)	0.13***	(4.61)	0.15***	(5.29)	0.14***	(5.12)
Missing					-0.30***	(-3.74)	0.10***	(4.33)	0.11***	(4.66)	0.11***	(4.51)
Parental Inc*Age												
Quintile 2*Age					0.01*	(2.37)						
Quintile 3*Age					0.01*	(2.58)						
Quintile 4*Age					0.03***	(7.91)						
Quintile 5*Age					0.05***	(14.91)						
Missing*Age					0.02***	(5.61)						
Benefit recipient							-0.18***	(-8.13)				
BenRecd*YParent							0.27***	(9.73)				
							0.09					
Ben recd (mean)							*-0.85****	*(-10.51)*				
*Ben recd*YParent*							*0.12*	*(1.30)*				
SNAP recipient									-0.21***	(-7.93)	-0.17***	(-10.16)
SNAP recd*Black									0.13**	(3.41)		
									-0.08			
SNAP recd*Hisp									-0.002	(-0.06)		
SNAP recd*Mixed									0.24	(1.70)		
SNAP recd (mean)									*-0.77****	*(-7.54)*	*-0.69****	*(-11.14)*
*SNAP recd*Race*									*0.04*	*(1.18)*		
TANF recipient									-0.12***	(-3.65)	-0.32***	(-5.47)
TANF recd (mean)									*-0.07*	*(-0.56)*	*-0.68***	*(-2.63)*
SNAP *TANF											0.29***	(4.24)

											0.12	
*SNAP*TANF*											*1.08**	*(2.52)*
Constant	4.40***	(69.27)	4.37***	(64.70)	4.80***	(54.79)	4.43***	(68.76)	4.42***	(68.23)	4.43***	(68.76)
Between var	0.50***	(79.49)	0.50***	(79.62)	0.50***	(79.68)	0.48***	(77.80)	0.48***	(77.63)	0.48***	(77.63)
Within var	0.85***	(321.38)	0.85***	(321.40)	0.85***	(321.42)	0.85***	(321.36)	0.85***	(320.90)	0.85***	(320.91)
Observations	59296		59296		59296		59296		59282		59164	
Cases	7037		7037		7037		7037		7037		7035	

Displayed are the coefficients from a correlated random effects model of logged monthly wages with t statistics in parentheses. ***p<0.001, **p<0.01 *p<0.

5.4 NLSY Work Intensity Measure and Descriptives

Description of outcome measure

In the NLSY work intensity model the variable weeks worked per year is the basis for the work intensity outcome. This is considered to be a more robust measure of labour market attachment than what was available in the BCS survey for this investigation as it can capture the higher proportion of workers in the youth labour market in part time or seasonal work with variable-hour contracts who might not report usual weekly hours of work.

The ordinal work intensity outcome is created by moderating the Eurostat measure of household work intensity, which is based on a household's 'workable' months and the number of months the household members were 'at work'[53]. The unit of this measure is weeks, with the number of workable weeks at a maximum of 52; those who are out of the labour market (0 weeks worked per year) are categorised in 'very low work intensity' along with those working 10 weeks or less per year. Unwaged work is not measured so this outcome measure is considered only waged work intensity, categorised as follows:

Category 4: Very high work intensity [0.85 – 1; 44 to 52 weeks];
Category 3: High work intensity [0.55 - 0.85; 29 to 44 weeks];
Category 2: Medium work intensity [0.45 - 0.55; 23 to 29 weeks];
Category 1: Low work intensity [0.20 -0.45; 10 to 23 weeks]; and
Category 0: Very low work intensity [0 - 0.20; 0 to 10 weeks]

Although the ordinal work intensity variable is used in the models it is valuable to investigate the underlying measure to determine how the experience of those in work differs among demographic groups. Figure 49 illustrates the variation in mean weeks worked per year between men and women in the sample who report the measure, and indicates relatively identical trend lines between the two groups through the youth period; both with an average around 35 weeks per year at 24. After the youth period variation between men and women's average weeks worked per year begins to emerge, although the variation is not as wide as perhaps one might expect. This suggests that the fall in labour market attachment related to childbearing may not yet have occurred for some

[53] Eurostat creates a work intensity score between 0 and 1, calculated by dividing the number of months in a year a respondent is 'in work' by the number of 'workable months' per year (12) (Eurostat 2015). The measure of work intensity used in this investigation followed the numerical cutpoints of the Eurostat work intensity scores and translated them for use with the weeks worked per year unit.

women in the sample who have children after age 30, or women who do have children stay in the labour market at high intensity. Although this measure does not capture women who leave the labour market after the birth of children and does not stretch very far into adulthood, the result suggests that the impact of gender on this measure of work intensity may be quite small.

Figure 50 shows the variation in weeks worked by racial groups, with smaller variation among White and Hispanic respondents particularly after the youth period. Black respondents at all time periods, however, work an average of around 8 weeks less than White respondents per year; indicating particularly different experiences in the labour market for these groups. The variation in trend lines in the first half of the figure speak to far higher success rates of White young people attaching to the labour market for more than half of the year on average while they are still in high school (to age 18) compared to both Hispanic and Black respondents; attachment that can provide an important foundation for later labour market success. There is particularly notable variation in work intensity (for those in the labour market) among those who were and were not young parents, which diverges starkly after age 21 (Figure 51). For young parents their average weeks worked per year stays around 33 weeks, while those who are not parenting have an average around 44 weeks per year from age 24 onwards. The final figure (Figure 52) for this variable is detailed by parental income, where those from the two highest quintiles have trend lines similar to one another (around 40 weeks/year from age 22 onwards) and differ most notably from those from the lowest income group. Those from the lowest income families have average weeks worked per year around 34 weeks from age 24 onwards.

Figure 49: Weeks worked per year (mean), NLSY sample by gender

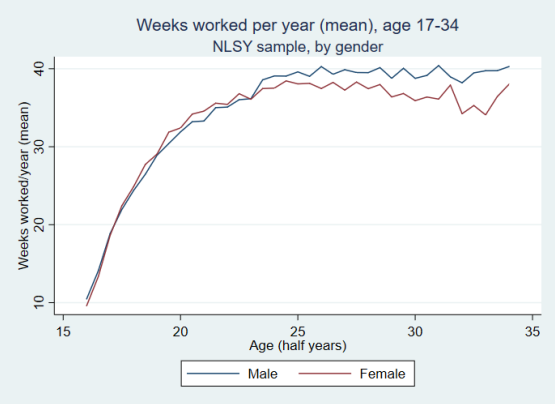


Figure 50: Weeks worked per year (mean), NLSY sample by race

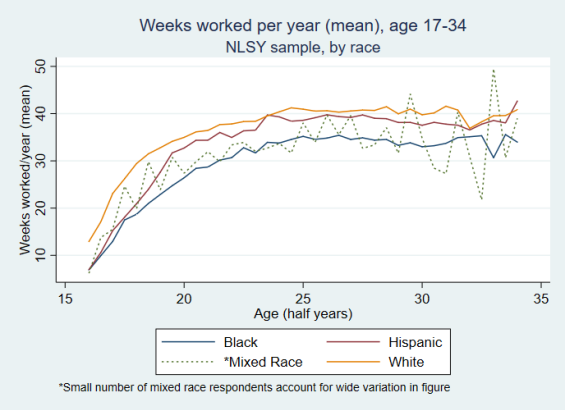


Figure 51: Weeks worked per year (mean), NLSY sample by parenting status at 24

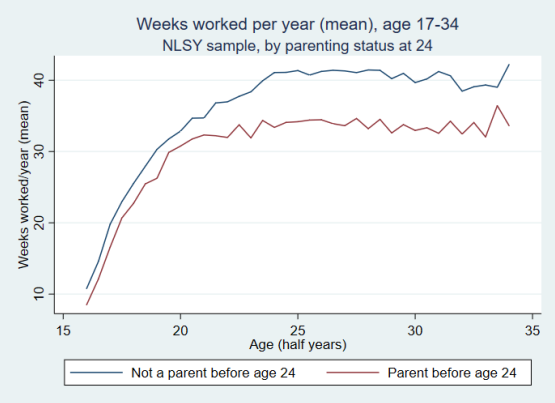
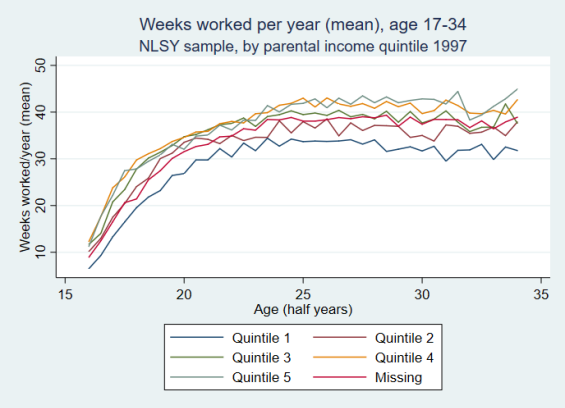
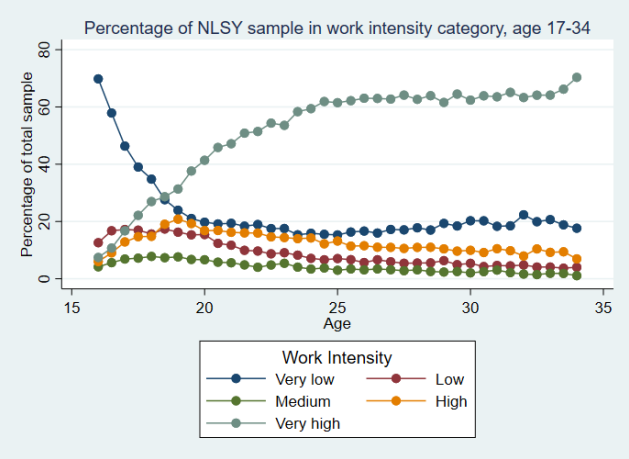


Figure 52: Weeks worked per year (mean), NLSY sample by parental income quintile 1997



The figures on the mean weeks worked per year measure, however, cannot provide a breakdown of the proportion of respondents in each group that are at very low levels of work intensity throughout the year (the majority of whom are out of the labour market). These groups are more accurately detailed by the percentage of group members who are in each work intensity category over the course of the survey. Figure 53 indicates that by age 24 around 60% of all respondents are in the very high work intensity category; where around 20% of respondents remain in very low work intensity from around age 19 onwards.

Figure 53: Percentage of sample in work intensity categories, total NLSY sample



The trends in work intensity between men and women in the sample in Figures 54 and 55 show that for both groups around 60% are in high work intensity by age 24, suggesting that a majority of both men and women transition 'successfully' in the employment domain by the end of the youth period. In both cases there are between 15 – 20% of respondents who are in the very low work intensity category from the early 20s onwards. Although a group of this size in very low work intensity might be expected for females in the labour market given what is known about childbearing and work intensity, the persistent group of men in this category is particularly notable and suggests that there is a distinct group of men who do not attach to the labour market with the same level of success as their male peers.

The differences in work intensity trends among racial groups in Figures 56-58 appear to be far more substantial than between men and women. Here the largest difference is between Black respondents and White respondents, indicating much higher levels of Black respondents out of the labour market at every point in the survey. Of particular note is the gap in the proportion of group members in very high work intensity, with 60% of White respondents in this category at age 24 compared to 42% of Black respondents. The

proportion of Black respondents in very high work intensity increases through the 20s but only ever to around 55% of the group by age 25. Figure 57 also indicates that around 40% of all Black respondents are in very low to medium work intensity – only tenuously attached to the labour market throughout the year. It is likely then that race will be a prominent factor in this model, but perhaps only with differences between White and Black respondents.

Figures 54-55: Percentage of respondents in each work intensity category, NLSY sample by gender

Figure 54: Work intensity, NLSY males

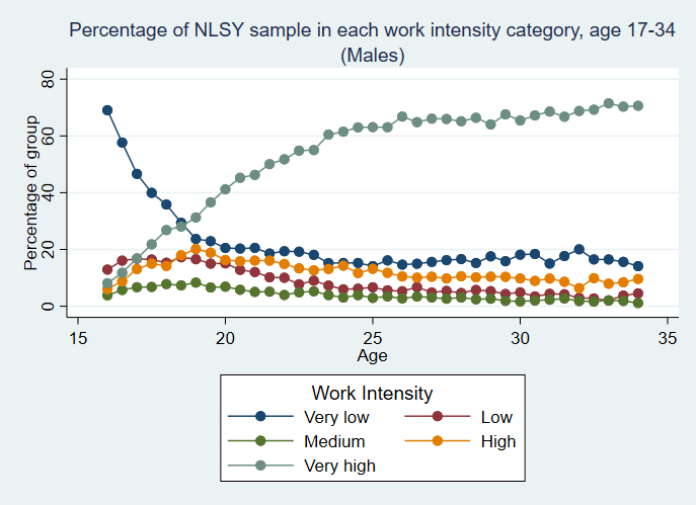
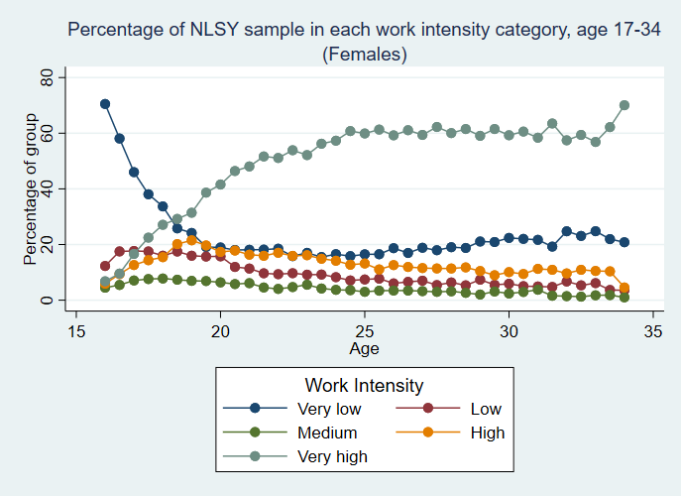


Figure 55: Work intensity, NLSY females



Figures 56 - 58: Percentage of respondents in each work intensity category, NLSY sample by race

Figure 56: White respondents

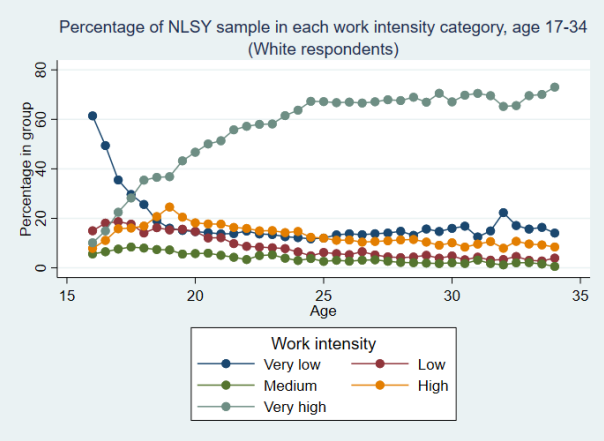


Figure 57: Black respondents

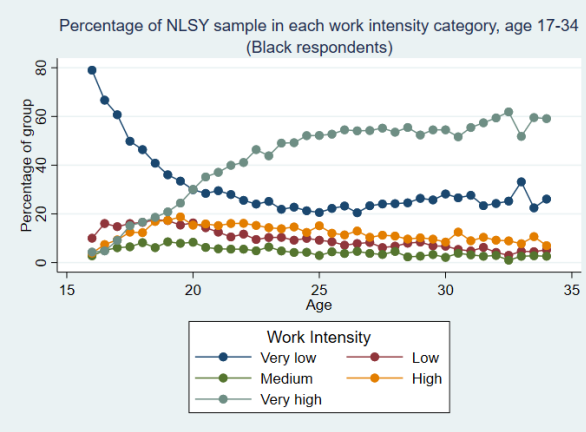


Figure 58: Hispanic respondents

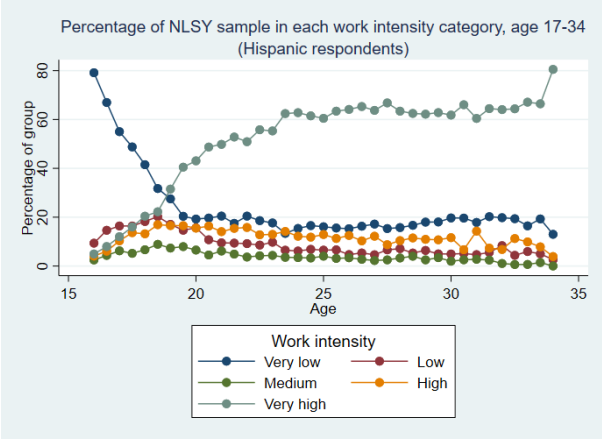
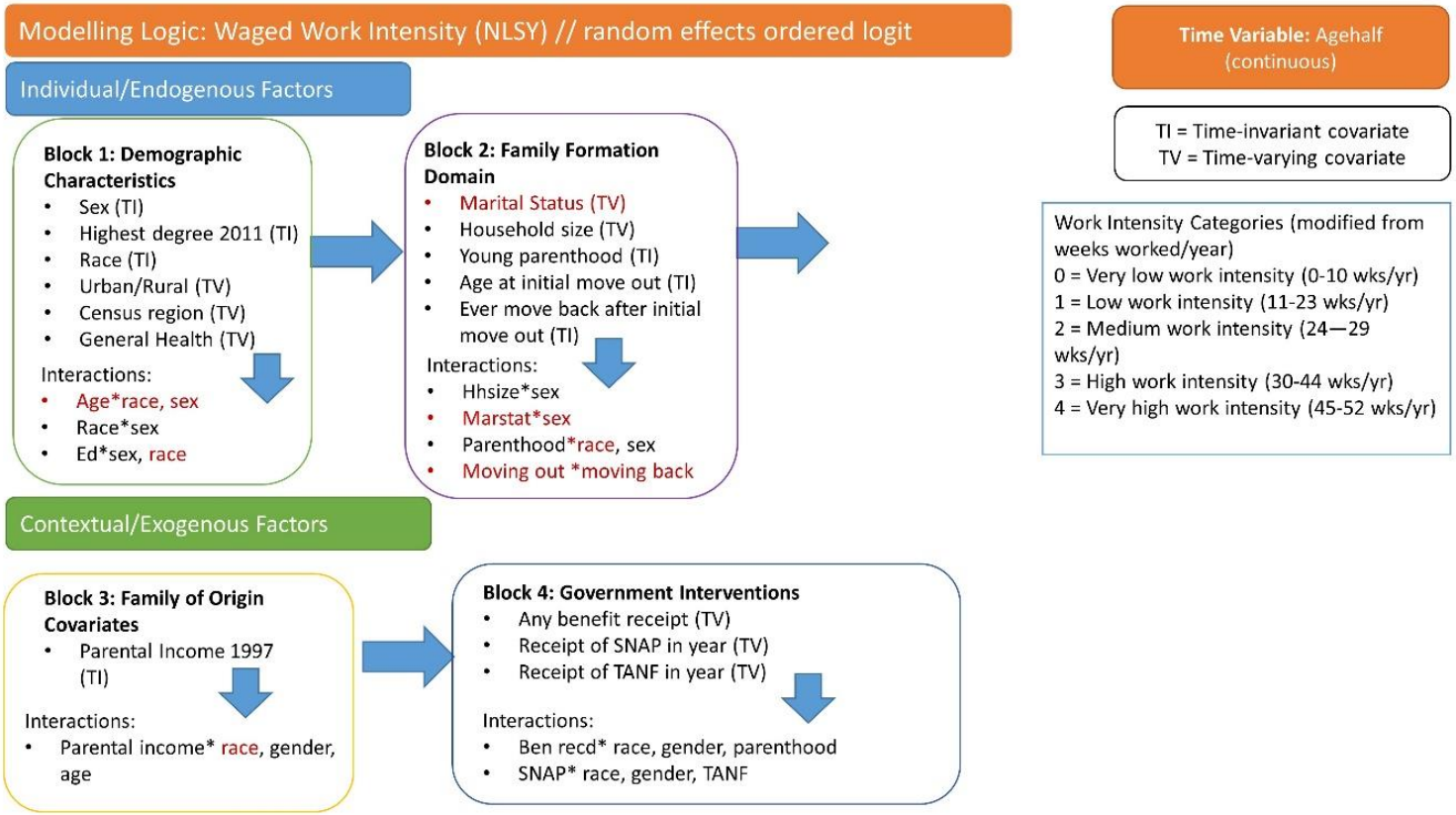


Figure 59: Modelling Logic, NLSY Waged Work Intensity (RE Ordered Logistic Regression)



5.5 Regression Results: NLSY Waged Work Intensity, Random Effect Ordered Logistic Regression

Block 1: Demographic characteristics (Table 19)

The first notable result in Block 1 is the result on the age covariate, and reports that the odds of being in a higher work intensity category increase with age (OR = 1.24). This could be considered the underlying effect that 'growing up' has on one's labour market experience, and the descriptive figures in the previous section suggest that there may be some variation on the impact of this variable depending on both gender and race. However, the interaction terms of age and gender and age and race were not significant and suggests that this underlying trend is similar for these demographic groups.

Although significant, the odds ratio on the gender covariate in Block 1 indicates that the odds of being in a higher work intensity category for women are 0.84 times lower than men, potentially smaller than expected. Gender may therefore be most valuable in this model as a moderating variable in interaction terms rather than as an independent covariate of interest. Race will also likely serve as a valuable moderating variable in interaction terms, particularly because of the large and significant odds ratios between Black and White respondents in the main effects iterations. At the end of Block 1 Black respondents have 0.50 times the odds of being in a higher work intensity category than White respondents on average; a covariate that remains significant through all model iterations. Finally, education as a main effect has generally consistent results with what is expected between those with higher education levels and those without qualifications, as those with higher education levels have increased odds of higher work intensity. As with the wages model, it will be valuable to consider if the impacts in education on work intensity differ between demographic groups.

Block 1 interactions (Table 20)[54]

The race and gender interaction was included to test whether the impact of race on work intensity was moderated by gender, and the results were particularly prominent among Black and White respondents. The positive odds ratio on the Black and female interaction term (OR = 1.22) indicates that the negative impact of being Black on one's work intensity is not as large for Black women, and helps to confirm the findings of other researchers on the particularly poor labour market outcomes for Black men in America compared to other demographic groups. The smaller negative impact of race for Black women therefore result in odds ratios slightly closer to one for Black women compared to White women (OR = 0.55, in bold) as the odds ratios between Black men and White men (OR = 0.45). There are also significant differences in the impact of race for Hispanic men and women, with more negative effects of race on work intensity for Hispanic women (interaction term OR = 0.82). The results show that while there are no significant differences in work intensity among Hispanic men and White men (OR = 0.91), Hispanic women have 0.75 times lower odds of being in a higher work intensity category than White women (bold OR). When this interaction is viewed with race moderating the impact of gender, the model finds that Black women do not have negative work intensity odds based on their gender in the same way as White women: rather, the odds ratios of gender moderated by race for Black respondents is 1.01 (italicised), showing no work intensity 'gender scar' for Black women compared to Black men.

The second significant interaction term among Block 1 covariates is on education and gender, and indicates that the impact of education on a respondent's level of work intensity differs between men and women. In this case the interaction term odds ratios above one at all education levels indicate that education has a much larger and more positive impact on women's labour market intensity odds than the same education level has on men's work intensity odds. These results for the work intensity outcome echo the results for this

[54] As a reminder, the interpretation of the interaction terms for a logistic regression is detailed in Figure 21, where the interaction term is the factor by which the odds ratio of the focal independent variable main effect (for the moderating variable at category = 0) must be multiplied to get the odds ratio of the independent variable when the moderating variable is at the other category values. For example, in the interaction of race (focal variable) by gender (moderating variable), the main effect is the odds ratio where the moderating variable category equals zero (e.g. effect of being Black for men), and the odds ratio in bold is the focal variable where the moderating variable category equals one (e.g. effect of being Black for women). The interaction term value is the factor by which the effect of race differs between Black men and Black women.

interaction on the wages outcome, where higher education levels had a much larger impact on women's wage trajectories than on men's wage trajectories. Unlike the wages model, there is no significant difference in the impact of education level on work intensity between racial groups.

Block 2: Family Formation Domain (Table 19)

The family formation characteristics in the work intensity model show some of the same types of results as the wages model and their inclusion slightly mediates the effect sizes on the gender and race covariates. Both household size and young parenthood have negative impacts on work intensity: a one-unit increase in household size decreases the odds of being in a high work intensity category by a factor of 0.89, and the experience of young parenthood decreases the odds by a factor of 0.89. These are not particularly large effects but there may be some variation in these impacts by gender, which will be tested for in an interaction term.

The significant results for the age at initial move out variable indicates that those who make an initial move out of the parental home any time before age 24 have higher odds of being in a higher work intensity category, with slightly more positive results for those who leave between age 21-24 (OR = 1.35). These results suggest that leaving home earlier may be considered a positive factor higher work intensity outcomes, perhaps because labour market experience is obtained earlier in the life course out of necessity. This must also be considered with the impacts of moving back; as with the wages model the experience of moving back at least once has a negative impact on higher work intensity odds. Those who 'boomerang' have 0.86 times lower odds of being in a high work intensity category than those who make a permanent exit from their parent's homes.

Block 2 interactions (Table 20)

The interaction terms in Block 2 (Table 20) confirm that there are significantly different impacts of both household size and young parenthood depending on the gender of the respondent. As with the wages model, the increase in household size has a more negative impact on the work intensity odds of women (interaction effect = 0.85), with women having their odds of being in a higher work intensity category reduced by a factor of 0.83 compared to a factor of 0.95 for men. Together with the descriptive figures earlier in this section, this suggests that the changes in family formation may be one of the key drivers in

the variation of work intensity between men and women. The second interaction term, young parenthood and gender, also shows particularly large negative impacts for females who become young parents compared to men who are young parents (interaction term OR = 0.56). In fact, the experience of young parenthood has a *positive* impact on work intensity for males who are young parents compared to men who are not (OR = 1.22) and may be further evidence young parenting is a positive factor in labour market attachment for young men. This is not the case for female young parents, where the experience has a markedly negative relationship with work intensity odds compared to women who are not young parents (bold OR = 0.69). Because of the significance of the interaction term and theoretical interest for this investigation, the interaction term is carried forward into the main effect iterations in Blocks 3b and 4a and 4b.

Block 3: Parental Background (Table 19)

The main effect results on the parental income quintile covariate show some particularly large impacts of parental background on work intensity, as respondents in all quintiles have higher odds of higher work intensity than those from the lowest income quintile. The odds ratios are largest for respondents from quintile 3 (OR = 1.39) and quintile 4 (OR = 1.47), and may indeed be reflective of the early and consistent labour market attachment for those from the middle income quintiles seen in the descriptive figure for weeks worked per year by parental income (Figure 50). Controlling for parental background income also has notable mediating impacts on race and young parenthood. The addition of parental income to the model reduced the negative impact of race such that there is no significant difference in work intensity odds between Hispanic and White respondents from the Block 3b iterations onward. The impact of young parenthood on work intensity becomes slightly more positive for males in the sample (OR = 1.23) and less negative for females (OR = 0.70). These mediating effects illustrate the relationship between parental background and young parenting; whereby controlling for parental background reduces the negative effect size for both gender groups of young parents.

Block 3 interactions (Table 20)

The positive interaction terms on parental income and gender indicate that women from more affluent families have higher odds of being in a higher work intensity category than men from the same income group, suggesting that parental background is a more notable factor in women's labour market attachment. The larger odds ratios between parental

income quintiles for women (ORs in bold) indicate that women from more privileged backgrounds (Quintile 4 OR = 1.74, Quintile 5 = 1.69) have much higher work intensity and are the group of women working most in this cohort. The result on the interaction term for parental income quintile and age indicates that the impact of parental income quintile changes with age only for those from the highest two income groups. These respondents show slightly lower odds of being in a higher work intensity category as they age compared to respondents from quintile 1. This suggests that higher parental income does not necessarily correspond to higher work intensity, a pattern that differs from this interaction in the model of wages. Finally, it is also notable that there is no significant interaction term on parental income and race, and therefore parental background impacts work intensity outcomes similarly for all racial groups.

Block 4: Government Interventions (Table 19)

The main effects of government intervention covariates on work intensity are negative and significant in both the any benefit receipt Model 4a (OR = 0.64) and in the SNAP and TANF Model 4b (SNAP OR = 0.53, TANF OR= 0.48). These results are particularly notable because of all of the demographic and youth transitions factors are controlled for, and indicate that benefit receipt in the youth period is associated with worse labour market attachment outcomes, particularly in comparison to those who do not receive benefits. However, the composition of the benefit recipient population must be considered when viewing these results, particularly considering that only those people who are already low income are the only sample members eligible for benefits, and thus may be expected to have lower attachment to the labour market than their non-poor counterparts. The more nuanced results regarding the mediating and moderating impacts of benefit receipt may thus be more valuable to consider here. Once benefit receipt is controlled for in Model 4a, the odds ratio for male young parents increases from 1.23 to 1.28 and the odds ratios for female young parents becomes less negative, from 0.70 to 0.81. These results suggest that benefit receipt (both any benefit receipt and SNAP and TANF receipt) is a notable, and potentially positive, factor that mediates the relationship between young parents and the labour market, particularly for female young parents.

The mediating effects of benefit receipt is also present for Black respondents, slightly decreasing the negative impact of race on work intensity for this group in Model 4a (to OR = 0.56) and Model 4b (to OR = 0.58) when SNAP and TANF are modelled separately;

indicating that benefit receipt is also a factor that notably mediates the relationship of Black respondents to the labour market, potentially in a positive direction.

Block 4 interactions (Table 21)

The significant main effects of government intervention covariates do however differ in their effect sizes based on some key demographic characteristics. The impacts of both any benefit receipt and SNAP receipt are moderated by gender and race. The interaction term of young parenthood and benefit receipt is included to test whether the experience of young parenthood on work intensity is moderated by the receipt of benefits. This investigates to what extent young parents who receive benefits differ from young parents who don't receive government assistance (given in the interaction term) as well as how they differ from benefit recipients who are not young parents (given in the resulting odds ratio).

The results for benefit receipt and gender and SNAP and gender interactions are in the same direction, although with slightly increased effects in the SNAP interaction. The interaction terms indicate that the negative work intensity impacts of benefit receipt are exacerbated for females compared to males who receive benefits (any benefit interaction OR = 0.64, SNAP interaction OR = 0.73). The resulting odds ratios that compare benefit receipt among women therefore show lower work intensity odds for women who receive any benefit compared to women who do not (OR = 0.54) and for women who receive SNAP compared to women who do not (OR = 0.47). The experience of poverty, and the effects of involvement in a means-tested benefit system, therefore has outsized negative impacts for female labour market attachment compared to male attachment given in the benefit main effect results (any benefit main OR = 0.84, SNAP main OR = 0.65).

The results on benefit receipt and race, however, tell a slightly different story. The negative impacts of benefit receipt on work intensity are slightly reduced for Black and Hispanic respondents, given by the odds ratios above one in the interaction terms for these groups. The results in both any benefit receipt and SNAP in bold show slightly smaller differences in work intensity outcomes between Black respondents who do and do not receive benefits (any benefit receipt bold OR= 0.69, SNAP bold OR = 0.66), and Hispanic respondents (any benefit receipt bold OR = 0.75, SNAP bold OR = 0.51) than the work intensity impacts of benefit receipt among White respondents (any benefit receipt main effect OR = 0.51, SNAP OR = 0.39). The results here indicate that benefit receipt does not have as large of a

negative impact on the work intensity odds of Black and Hispanic respondents as much as it does for White respondents.

The significant interaction of young parenthood and benefit receipt indicates that benefits moderate the impact of young parenthood, and the positive odds ratio on the interaction term indicates that young parents who receive benefits have higher work intensity outcomes than young parents who do not (interaction OR = 1.94). The odds ratio in bold also indicates that among those who have received benefits, young parenting did not have a negative impact on work intensity compared to benefit recipients who are not young parents. In fact, the odds of being in a higher work intensity category is 1.73 times greater (bold OR) for young parents who receive benefits than for their peers who receive benefits but are not young parents.

As with the wages model, the effects of SNAP on work intensity also differ between those who receive TANF and those who do not. The interaction term (OR = 2.00) indicates that SNAP has a much more positive impact on work intensity for TANF recipients compared to other SNAP recipients, and the resulting odds ratio of 1 in bold indicates that SNAP does not negatively impact work intensity for TANF families. Together with the wages results, this suggests that SNAP has a positive relationship with higher wage trajectories and higher work intensity for the very poor.

Summary

The NLSY work intensity model affirmed that both gender and race continue to be the most prominent demographic factors that shape both one's later labour market attachment and the impact of government assistance on work intensity. Additionally, the impact of parental background is more prominent in labour market attachment than it is in the model of wages. Those from higher income groups have higher work intensity odds on average, with women's labour market attachment more positively impacted by more affluent family backgrounds. However, the impact of parental income on work intensity does not widen with age as it does for wage trajectories; rather, those from higher income quintiles actually have lower odds of higher work intensity as they age, suggesting that perhaps these groups do not have to work as much to receive the same or higher wage returns.

One of the more notable findings for work intensity is on the experience of young parenthood, which was found to be a trigger event that has a negative impact on work

intensity on average. Most notably this experience has particularly outsized negative impacts for females, with far lower work intensity than females who are not young parents. However, male young parents have the opposite result, as their odds of higher work intensity are higher than males who are not young parents. Benefit receipt both mediates and moderates the work intensity of young parents, especially female young parents. The results suggest that benefits play a larger role in young parents' work intensity outcomes compared to their non-parenting peers and this factor can be positive for labour market attachment.

Once all of the demographic and youth transitions factors are controlled for, benefit receipt in the youth period is associated with worse labour market attachment outcomes, particularly in comparison to those who do not receive benefits. However this is to be expected given the composition of sample members who receive means-tested benefits, and the more notable results in this model are those on the mediating and moderating impact of benefit receipt for other subgroups of sample members. Controlling for benefit receipt reduced the negative work intensity odds on the female covariate and slightly on the Black covariate, which indicates that engagement with the benefit system can partially explain the differences in work intensity between men and women and White and Black respondents. This result also led to an investigation of interaction terms with these demographic characteristics and benefit receipt, which found that the negative impact of benefit receipt is more pronounced for females. However this is not so for Black respondents, where the negative impacts of benefit receipt are not as large. Finally, the effects of receiving SNAP differ depending on whether a respondent also receives TANF, where TANF families do not experience negative impacts on work intensity from SNAP receipt as other families; in fact, SNAP was found to be a positive factor in the work intensity experiences of these families.

Table 19: Longitudinal Ordered Logit Models of work intensity NLSY 1997, main effects (Blocks 1-4)

	Block 1		Block 2		Block 3b		Block 4a		Block 4b	
	OR	t	OR	t	OR	t	OR	t	OR	t
Age	1.24***	(75.37)	1.23***	(70.92)	1.23***	(70.94)	1.238***	(72.02)	1.237***	(70.55)
Race (White)										
Black	0.50***	(-16.81)	0.52***	(-15.42)	0.55***	(-13.82)	0.56***	(-13.45)	0.58***	(-12.80)
Hispanic	0.82***	(-4.51)	0.91*	(-2.05)	0.95	(-1.05)	0.95	(-1.04)	0.94	(-1.41)
Mixed Race	0.53***	(-3.51)	0.55**	(-3.25)	0.58**	(-2.93)	0.59**	(-2.85)	0.60**	(-2.70)
Female	0.84***	(-5.57)	0.87***	(-4.28)	1.07	(1.69)	1.08*	(2.12)	1.09*	(2.30)
Educ (No quals)										
GED	1.60***	(6.52)	1.53***	(5.93)	1.52***	(5.86)	1.48***	(5.57)	1.45***	(5.38)
HS Diploma	2.95***	(17.71)	2.68***	(15.89)	2.60***	(15.48)	2.47***	(14.81)	2.37***	(14.24)
AA	3.96***	(16.94)	3.43***	(14.98)	3.29***	(14.49)	3.10***	(13.90)	2.95***	(13.28)
Bachelor's	3.85***	(20.91)	3.27***	(17.37)	3.01***	(15.90)	2.80***	(14.99)	2.68***	(14.41)
Master’s	3.92***	(16.72)	3.32***	(14.03)	3.01***	(12.81)	2.79***	(11.99)	2.64***	(11.37)
PhD	2.75**	(2.81)	2.30*	(2.36)	2.08*	(2.15)	1.93	(1.94)	1.79	(1.70)
Prof Deg	1.56**	(3.02)	1.26	(1.58)	1.17	(1.10)	1.08	(0.57)	1.02	(0.13)
Geog(Rural)										
Urban	1.22***	(6.55)	1.17***	(5.30)	1.17***	(5.36)	1.18***	(5.45)	1.18***	(5.61)
Unknown	1.01	(0.24)	0.96	(-0.71)	0.96	(-0.73)	0.96	(-0.77)	0.96	(-0.73)
Census reg (NE)										
North Central	1.18**	(3.13)	1.17**	(3.01)	1.16**	(2.79)	1.17**	(2.93)	1.17**	(2.97)
South	0.95	(-1.00)	0.93	(-1.35)	0.93	(-1.39)	0.93	(-1.45)	0.92	(-1.61)
West	0.89*	(-2.22)	0.88*	(-2.33)	0.88*	(-2.42)	0.88*	(-2.51)	0.88*	(-2.43)
Health (Excellent)										
Very Good	1.11***	(5.18)	1.11***	(5.15)	1.11***	(5.05)	1.11***	(5.16)	1.11***	(5.23)
Good	1.05*	(2.10)	1.06*	(2.34)	1.06*	(2.35)	1.07**	(2.65)	1.07**	(2.91)
Fair	0.86***	(-4.10)	0.87***	(-3.85)	0.87***	(-3.78)	0.88***	(-3.31)	0.91**	(-2.58)
Poor	0.39***	(-8.25)	0.39***	(-8.16)	0.39***	(-8.11)	0.41***	(-7.83)	0.44***	(-7.20)
Household size			0.89***	(-17.47)	0.89***	(-17.25)	0.89***	(-16.30)	0.90***	(-16.01)
Young parenting			0.89**	(-2.98)	1.23***	(3.80)	1.28***	(4.55)	1.25***	(4.01)
Y Parent*Gender					0.57***	(-8.36)	0.63***	(-6.78)	0.65***	(-6.36)
					0.70		**0.81**		**0.81**	
Moved out (>24)										
Before 19			1.17**	(3.06)	1.16**	(3.05)	1.18***	(3.37)	1.19***	(3.52)
19-21			1.23***	(4.21)	1.23***	(4.21)	1.25***	(4.57)	1.27***	(4.93)
21-24			1.35***	(6.27)	1.34***	(6.15)	1.35***	(6.40)	1.36***	(6.65)

Moved back		0.86***	(-4.40)	0.85***	(-4.63)	0.85***	(-4.64)	0.85***	(-4.61)
Parental Inc (Q1)									
Quintile 2				1.26***	(4.01)	1.25***	(3.84)	1.24***	(3.72)
Quintile 3				1.39***	(5.43)	1.36***	(5.20)	1.36***	(5.10)
Quintile 4				1.47***	(6.36)	1.44***	(6.02)	1.43***	(5.91)
Quintile 5				1.30***	(4.25)	1.27***	(3.83)	1.26***	(3.77)
Missing				1.23***	(3.89)	1.21***	(3.65)	1.20***	(3.50)
Benefit recipient						0.64***	(-14.28)		
TANF recipient								0.48***	(-12.03)
SNAP recipient								0.53***	(-17.12)
Observations	106365	106365		106365		106365		104889	
Cases	7209	7209		7209		7209		7209	

Displayed are odds ratios from an ordered logistic regression of waged work intensity with t statistics in parentheses; odds ratios in bold are those resulting from the interaction term.
***p<0.001, **p<0.01 *p<0.05

Table 20: Longitudinal Ordered Logit Models of work intensity NLSY 1997, interaction effects (Blocks 1-3)

	Race *Gender		Education *Gender		HH size *Gender		Y. parenting *Gender		Parental Inc *Gender		Parental Inc *Age	
	OR	**t**	**OR**	**t**	**OR**	**t**	**OR**	**t**	**OR**	**t**	**OR**	**t**
Age	1.24***	(75.36)	1.24***	(75.36)	1.23***	(71.75)	1.23***	(70.96)	1.23***	(70.90)	1.21***	(30.09)
Race (White)												
Black	0.45***	(-13.72)	0.49***	(-17.20)	0.52***	(-15.44)	0.52***	(-15.62)	0.55***	(-13.64)	0.55***	(-13.60)
Hispanic	0.91	(-1.61)	0.82***	(-4.66)	0.91*	(-2.03)	0.91*	(-2.21)	0.96	(-0.91)	0.96	(-0.87)
Mixed Race	0.60	(-1.84)	0.55**	(-3.29)	0.54***	(-3.33)	0.56**	(-3.07)	0.56**	(-3.08)	0.56**	(-3.10)
Female	0.83***	(-4.33)	0.42***	(-7.99)	1.43***	(5.81)	1.06	(1.53)	0.73***	(-3.69)	0.88***	(-4.04)
	1.01											
Race*Gender												
Black*Female	1.22*	(2.57)										
	0.55											
	1.01											
Hispanic*Female	0.82*	(-2.43)										
	0.75											
	0.68											
Mixed* Female	0.79	(-0.65)										
	0.47											
	0.65											
Educ (No quals)												
GED	1.61***	(6.63)	1.21*	(2.03)	1.54***	(6.05)	1.53***	(6.01)	1.51***	(5.81)	1.51***	(5.78)
HS Diploma	2.95***	(17.71)	2.24***	(10.06)	2.70***	(16.07)	2.73***	(16.31)	2.59***	(15.26)	2.54***	(15.08)
AA	3.94***	(16.86)	2.47***	(7.49)	3.44***	(15.02)	3.49***	(15.27)	3.28***	(14.39)	3.22***	(14.20)
Bachelor's	3.84***	(20.92)	2.32***	(9.74)	3.27***	(17.44)	3.23***	(17.29)	3.07***	(16.07)	3.04***	(16.00)
Master's	3.89***	(16.65)	2.13***	(6.20)	3.29***	(13.96)	3.21***	(13.72)	3.13***	(13.22)	3.10***	(13.07)
PhD	2.75**	(2.86)	0.67	(-0.66)	2.26*	(2.31)	2.19*	(2.31)	2.18*	(2.24)	2.16*	(2.17)
Prof Deg	1.54**	(2.96)	0.67*	(-2.10)	1.25	(1.53)	1.24	(1.50)	1.19	(1.24)	1.18	(1.11)
Geog (Rural)												
Urban	1.21***	(6.48)	1.22***	(6.69)	1.17***	(5.24)	1.17***	(5.35)	1.17***	(5.34)	1.17***	(5.11)
Unknown	1.01	(0.23)	1.01	(0.29)	0.97	(-0.65)	0.96	(-0.73)	0.96	(-0.68)	0.95	(-0.99)
Census Reg (NE)												
North Central	1.18**	(3.11)	1.18**	(3.12)	1.17**	(2.97)	1.17**	(3.00)	1.16**	(2.83)	1.17**	(2.97)
South	0.95	(-1.02)	0.95	(-1.00)	0.93	(-1.37)	0.94	(-1.33)	0.93	(-1.41)	0.93	(-1.35)
West	0.89*	(-2.18)	0.89*	(-2.26)	0.88*	(-2.31)	0.88*	(-2.34)	0.88*	(-2.39)	0.88*	(-2.47)
Health (Excellent)												
Very Good	1.11***	(5.16)	1.11***	(5.08)	1.11***	(5.16)	1.11***	(5.08)	1.11***	(5.08)	1.11***	(5.03)
Good	1.05*	(2.06)	1.05*	(2.04)	1.06*	(2.40)	1.06*	(2.33)	1.06*	(2.37)	1.06*	(2.32)
Fair	0.86***	(-4.16)	0.86***	(-4.08)	0.87***	(-3.85)	0.87***	(-3.84)	0.87***	(-3.77)	0.87***	(-3.74)
Poor	0.39***	(-8.28)	0.39***	(-8.22)	0.39***	(-8.14)	0.39***	(-8.13)	0.39***	(-8.12)	0.40***	(-8.07)

Education*Gender										
GED*Female	1.83***	(4.24)								
	2.23									
HS Dip*Female	1.85***	(5.13)								
	4.14									
AA*Female	2.64***	(5.98)								
	6.53									
Bachelor's*Female	2.79***	(8.24)								
	6.49									
Master's*Female	3.16***	(7.09)								
	6.76									
PhD*Female	9.77***	(3.32)								
	6.58									
Prof Deg*Female	5.40***	(6.28)								
	3.63									
Household size			0.95***	(-5.63)	0.89***	(-17.25)	0.89***	(-17.43)	0.89***	(-16.89)
HHsize*Female			0.87***	(-10.25)						
			0.83							
Young parenting			0.90**	(-2.62)	1.22***	(3.61)	0.91*	(-2.48)	0.90**	(-2.78)
Yparent*Female					0.56***	(-8.37)				
					0.69					
Moved out (>24)										
Before 19			1.17**	(3.17)	1.17**	(3.11)	1.16**	(2.97)	1.17**	(3.04)
19-21			1.24***	(4.32)	1.23***	(4.26)	1.23***	(4.21)	1.23***	(4.17)
21-24			1.35***	(6.39)	1.34***	(6.24)	1.34***	(6.20)	1.34***	(6.16)
Moved back			0.86***	(-4.32)	0.86***	(-4.53)	0.86***	(-4.45)	0.86***	(-4.50)
Parental Inc (Q1)										
Quintile 2							1.24*	(2.51)	1.54*	(2.25)
Quintile 3							1.31**	(3.13)	1.02	(0.11)
Quintile 4							1.24**	(2.58)	0.79	(-1.18)
Quintile 5							1.01	(0.17)	0.52**	(-3.11)
Missing							1.15	(1.91)	0.70*	(-2.03)
Parental Inc*Gender										
Quintile 2*Female							1.03	(0.27)		
							1.28			
Quintile 3*Female							1.13	(1.04)		
							1.47			
Quintile 4*Female							1.40**	(3.01)		
							1.74			
Quintile 5*Female							1.66***	(4.57)		

					1.69		
Missing*Female					1.12	(1.11)	
					1.29		
Parental Inc*Age							
Quintile 2*Age						0.99	(-0.99)
						1.02	
Quintile 3*Age						1.01	(1.45)
						1.03	
Quintile 4*Age						1.03**	(2.90)
						0.80	
Quintile 5*Age						1.04***	(4.17)
						0.54	
Missing*Age						1.02**	(3.00)
						0.72	
Observations	106365	106365	106365	106365	106365	106365	
Cases	7209	7209	7209	7209	7209	7209	

Displayed are odds ratios from an ordered logistic regression of waged work intensity with t statistics in parentheses; odds ratios in bold are those resulting from the interaction term.
***p<0.001, **p<0.01 *p<0.05

Table 21: Longitudinal Ordered Logit Models of work intensity NLSY 1997, interaction effects (Block 4)

	Ben receipt *Gender		Ben receipt *Race		Y.Parent* Ben Receipt		SNAP *Gender		SNAP *Race		SNAP *TANF	
	OR	t	OR	t	OR	t	OR	t	OR	t	OR	t
Age	1.24***	(71.98)	1.24***	(72.02)	1.24***	(72.37)	1.24***	(70.55)	1.24***	(70.64)	1.24***	(70.74)
Race												
Black	0.57***	(-13.18)	0.54***	(-14.33)	0.57***	(-13.19)	0.58***	(-12.60)	0.54***	(-14.11)	0.58***	(-12.67)
Hispanic	0.96	(-0.95)	0.90*	(-2.29)	0.96	(-0.99)	0.94	(-1.34)	0.92	(-1.80)	0.94	(-1.86)
Mixed Race	0.58**	(-2.90)	0.57**	(-3.16)	0.56**	(-3.09)	0.59**	(-2.79)	0.58**	(-3.02)	0.59**	(-2.85)
Educ (No quals)												
GED	1.47***	(5.51)	1.48***	(5.53)	1.48***	(5.55)	1.45***	(5.34)	1.44***	(5.27)	1.45***	(5.33)
HS Diploma	2.43***	(14.54)	2.43***	(14.44)	2.44***	(14.51)	2.34***	(13.97)	2.31***	(13.83)	2.33***	(13.95)
AA	3.05***	(13.68)	3.05***	(13.64)	3.05***	(13.65)	2.90***	(13.07)	2.88***	(12.99)	2.90***	(13.09)
Bachelor's	2.81***	(15.03)	2.79***	(14.89)	2.78***	(14.79)	2.69***	(14.47)	2.66***	(14.28)	2.69***	(14.45)
Master's	2.84***	(12.17)	2.83***	(12.09)	2.80***	(11.97)	2.70***	(11.59)	2.67***	(11.43)	2.70***	(11.58)
PhD	1.96	(1.95)	1.96	(1.93)	1.97	(1.95)	1.84	(1.75)	1.82	(1.70)	1.85	(1.75)
Prof Deg	1.09	(0.61)	1.08	(0.56)	1.07	(0.46)	1.03	(0.20)	1.02	(0.11)	1.03	(0.19)
Geog (Rural)												
Urban	1.17***	(5.39)	1.18***	(5.45)	1.17***	(5.37)	1.18***	(5.55)	1.18***	(5.63)	1.18***	(5.58)
Unknown	0.96	(-0.83)	0.96	(-0.77)	0.96	(-0.80)	0.96	(-0.74)	0.96	(-0.72)	0.96	(-0.73)
Census Reg (NE)												
North Central	1.17**	(2.92)	1.17**	(2.93)	1.17**	(2.97)	1.17**	(2.99)	1.17**	(2.98)	1.17**	(3.02)
South	0.93	(-1.47)	0.93	(-1.44)	0.93	(-1.47)	0.92	(-1.60)	0.93	(-1.56)	0.92	(-1.59)
West	0.88*	(-2.49)	0.88*	(-2.49)	0.88*	(-2.50)	0.88*	(-2.39)	0.88*	(-2.38)	0.88*	(-2.41)
Health (Excellent)												
Very Good	1.11***	(5.10)	1.11***	(5.22)	1.11***	(5.19)	1.11***	(5.23)	1.11***	(5.27)	1.12***	(5.30)
Good	1.06*	(2.56)	1.07**	(2.72)	1.07**	(2.69)	1.07**	(2.87)	1.07**	(2.98)	1.07**	(2.95)
Fair	0.88***	(-3.39)	0.89***	(-3.30)	0.89**	(-3.26)	0.91**	(-2.60)	0.91*	(-2.52)	0.91*	(-2.52)
Poor	0.41***	(-7.89)	0.41***	(-7.79)	0.42***	(-7.82)	0.44***	(-7.24)	0.45***	(-7.15)	0.44***	(-7.21)
Household size	0.89***	(-16.49)	0.89***	(-16.36)	0.89***	(-16.55)	0.90***	(-16.19)	0.90***	(-15.92)	0.90***	(-16.04)
Female	0.99	(-0.43)	0.92*	(-2.50)	0.91**	(-2.75)	0.97	(-1.06)	0.94*	(-2.00)	0.94	(-1.86)
Benefit recipient	0.84***	(-3.42)	0.51***	(-12.90)	0.40***	(-16.69)						
Ben Recd*Female	0.64***	(-7.06)										
	0.54											
Young parenting	1.01	(0.28)	1.00	(-0.07)	0.89**	(-3.00)	0.99	(-0.27)	0.99	(-0.34)	0.99	(-0.33)
Moved out (>24)												

Before 19	1.18***	(3.32)	1.18***	(3.37)	1.17**	(3.20)	1.19***	(3.48)	1.20***	(3.57)	1.19***	(3.49)
Between 19-21	1.25***	(4.58)	1.24***	(4.44)	1.24***	(4.38)	1.27***	(4.93)	1.26***	(4.82)	1.27***	(4.91)
Between 21-24	1.35***	(6.46)	1.35***	(6.34)	1.35***	(6.36)	1.37***	(6.71)	1.36***	(6.65)	1.37***	(6.68)
Moved back	0.85***	(-4.61)	0.86***	(-4.50)	0.86***	(-4.38)	0.86***	(-4.56)	0.86***	(-4.48)	0.86***	(-4.48)
Parental Inc (Q1)												
Quintile 2	1.25***	(3.81)	1.25***	(3.86)	1.24***	(3.71)	1.24***	(3.70)	1.24***	(3.76)	1.24***	(3.67)
Quintile 3	1.37***	(5.23)	1.37***	(5.31)	1.37***	(5.21)	1.36***	(5.16)	1.37***	(5.23)	1.36***	(5.13)
Quintile 4	1.43***	(5.98)	1.43***	(6.00)	1.43***	(5.95)	1.42***	(5.90)	1.42***	(5.92)	1.42***	(5.88)
Quintile 5	1.27***	(3.83)	1.26***	(3.69)	1.26***	(3.68)	1.26***	(3.77)	1.26***	(3.68)	1.26***	(3.72)
Missing	1.21***	(3.60)	1.21***	(3.58)	1.20***	(3.50)	1.20***	(3.47)	1.20***	(3.49)	1.20***	(3.42)
Ben Recd*Race												
Yes*Black			1.34***	(4.26)								
			0.69									
Yes*Hispanic			1.46***	(4.74)								
			0.75									
Yes*Mixed Race			1.09	(0.22)								
			0.56									
YParent*BenRecd					1.94***	(10.18)						
					1.73							
SNAP recipient							0.65***	(-7.18)	0.39***	(-15.16)	0.50***	(-18.05)
SNAP*Female							0.73***	(-4.25)				
							0.47					
TANF recipient							0.49***	(-11.93)	0.47***	(-12.53)	0.29***	(-11.07)
SNAP*Race												
Yes*Black									1.71***	(6.71)		
									0.66			
Yes*Hispanic									1.32**	(2.89)		
									0.51			
Yes*Mixed Race									1.27	(0.66)		
									0.50			
SNAP*TANF											2.00***	(5.36)
											1.00	
Observations	106365		106365		106365		104889		104889		104889	
Cases	7209		7209		7209		7209		7209		7209	

Displayed are odds ratios from an ordered logistic regression of waged work intensity with t statistics in parentheses; odds ratios in bold are those resulting from the interaction term.
***p<0.001, **p<0.01 *p<0.05

5.6 NLSY Poverty Ratio Measure and Descriptives

Description of outcome measure

The final outcome to be modelled for the NLSY sample is poverty ratio, a measure that is the 'ratio comparing the gross household income variable (rounds 1 -7) and the gross family income[55] variable (round 8 and up) to the federal poverty level [FPL] for the previous year, taking household size into account'; a poverty ratio of 100, therefore, is 100% of FPL (Bureau of Labor Statistics 2016). The poverty ratio measure can provide a fuller picture of the respondent's economic standing than individual wages may provide. The poverty ratio thresholds used in government assistance programmes served as guidelines for creating the ordinal variable. A poverty ratio of 100 demarcates eligibility for nearly all forms of means-tested government assistance. However, Americans are eligible for SNAP if their gross income is below 130% FPL and low-income children are eligible for the Children's Health Insurance Program (CHIP) if their family income is under 200% FPL (Aussenberg 2014). In US public policy research, 200% FPL (poverty ratio 200) is considered a useful way to determine 'low income' status and is generally the highest level of income one can have to be eligible for government assistance (in the CHIP programme above).

From these programme thresholds the ordinal measure is as follows:

0 = Poverty ratio 200 or above

1 = Poverty ratio 101 – 200

2 = Poverty ratio 100 or below

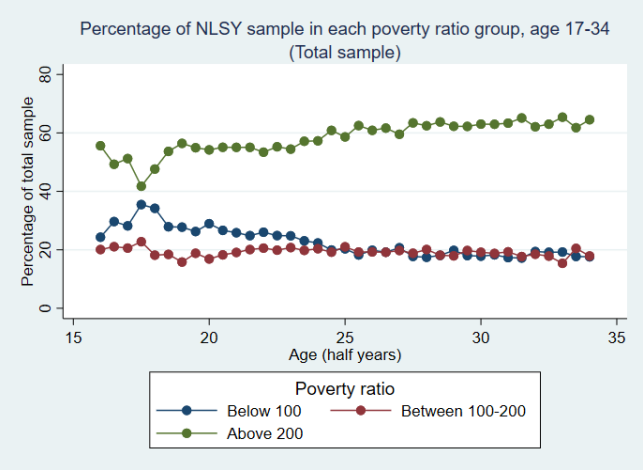
The ordinal variable categorised in this way will results in odds ratios above 1 indicating higher odds of being in a poverty group.

Figure 60 details the percentage of all NLSY respondents in the three poverty ratio categories across the survey period. What is most notable is the relatively stable percentages of respondents who remain in each category from age 20 onwards. Changes in group membership mostly occur in this early youth period, as respondents are perhaps

[55] According to the NLSY Topical Guide to the Data, 'several questions were combined to create this income variable: non-farm and farm wages, the wages of the respondent's spouse/partner, child support…rental income…parents' income if the respondent resided with them, monetary gifts (other than allowance) from parents, public support sources, and other income' (Bureau of Labor Statistics 2016).

leaving the parental home and working to establish steady incomes on their own. At age 18, around 40% of respondents are in the highest poverty group and almost 40% are in the lowest poverty group. By age 20, however, a much larger percentage of respondents are in the lowest poverty group (around 60%), while there are around 20% of respondents in each of the middle and high poverty groups.

Figure 60: Percentage of sample in poverty ratio groups, total NLSY sample



Unlike the other two outcome measures, the percentages of males and females in each poverty ratio group are relatively similar (Figures 61 and 62). This is likely due to the poverty ratio as a household-level measure rather than an individual-level measure, so there would likely be less of an independent effect of gender especially if there are two earners in the household.

Viewing the poverty ratio figures by racial group, however, shows some very large differences in the percentage of respondents who are in each of the poverty ratio categories (Figures 63-65). The most notable differences in these figures are between White respondents and Black respondents: by age 19 over 60% of White respondents are in the lowest poverty group and remain so for the entirety of the survey period, while only 40-45% of respondents who are Black are in this category from age 20 onwards. The percentage of White respondents in the lowest poverty group increase slightly with age (to nearly 75% at age 30), indicating that on average household incomes increase for this group as they approach their 30s (Figure 63). However, there is less change among categories for Black respondents and at no point in the survey are more than half of Black respondents in this lowest poverty group (e.g. above 200% FPL) (Figure 64).

Hispanic respondents in the group show quite a bit more movement among poverty groups during the course of the youth period, which is illustrated by the increase of respondents who are in the lowest poverty category from age 18 onwards (Figure 65). The percentage in the lowest poverty group increases from 40% of Hispanic respondents at age 18 to around 60% at age 30. When viewed in reference to the results for White and Black respondents, this figure seems to suggest that the negative independent effect of race for Hispanic respondents compared to White respondents may become less prominent with age.

Figures 61-62: Percentage of sample in poverty ratio groups, NLSY sample by gender

Figure 61: Poverty ratio, NLSY males

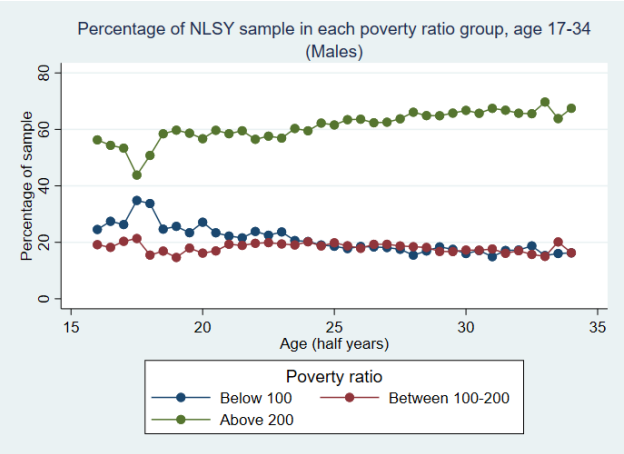
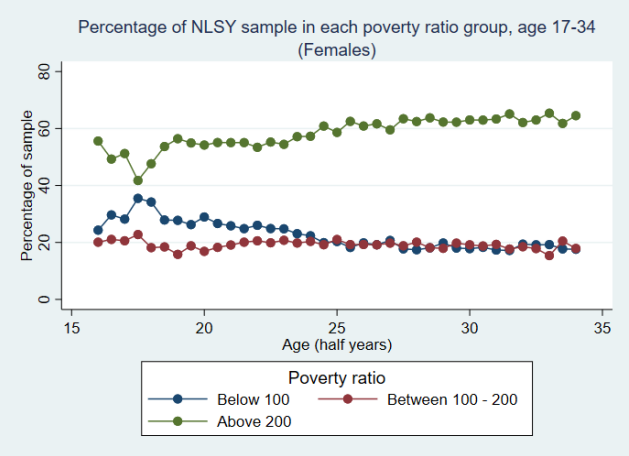


Figure 62: Poverty ratio, NLSY females



Figures 63-65: Percentage of respondents in each poverty ratio category, NLSY sample by race

Figure 63: White respondents

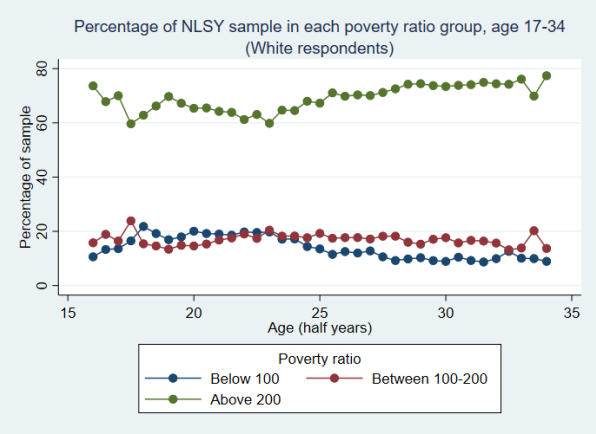


Figure 64: Black respondents

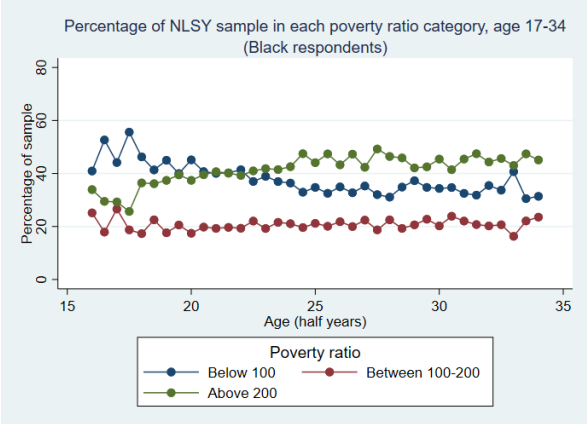


Figure 65: Hispanic respondents

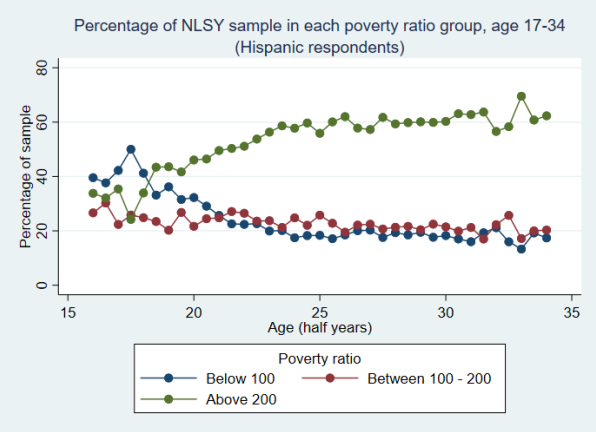
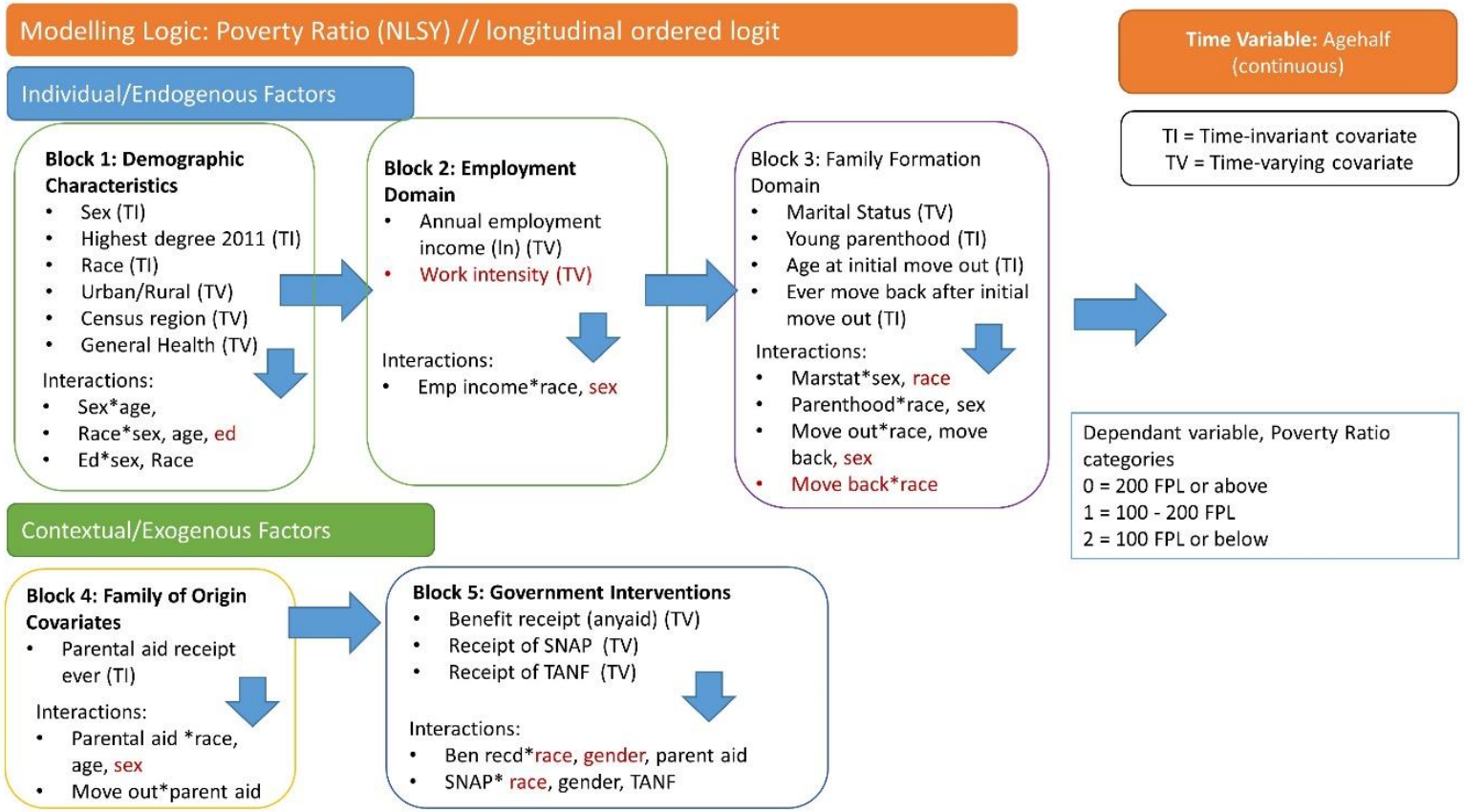


Figure 66: Modelling Logic, NLSY Poverty Ratio (RE Ordered Logistic Regression)



5.7 Regression Results: NLSY Poverty Ratio, Random Effects Ordered Logistic Regression

Block 1: Demographic Characteristics (Table 22)

The most notable demographic characteristics for the poverty ratio outcome are relatively similar to those of note in the individual models, particularly as race and education have impacts in the same direction as the individual models. Black respondents at the end of Block 1 have 3 times higher odds of being in a higher poverty group than White respondents, while Hispanic respondents have around 1.3 times higher odds. The odds ratio reduces to 2.06 for Black respondents as all the family formation domain factors are controlled for (through Block 3), but the significant effect of race stays prominent through the first half of model iterations. The education covariate indicates a prominent impact of education on household poverty status, as higher levels of respondent education result in lower odds of being in a higher poverty group.

A significant gender effect is present in Block 1 and shows higher odds of being in a poverty group for women (OR = 1.46), but this significant negative impact disappears with the inclusion of more covariates by the end of Block 3. This indicates that some of the variation in poverty ratio outcomes between men and women are captured by experiences in the employment domain and in the family formation domain. However by Blocks 5a and 5b a significant gender effect emerges, where females have lower odds of being in a higher poverty group.

Block 1 interactions (Table 23)

Interaction terms for both gender and age and race and age are included in Table 21, and while the impact of gender changes as respondents age, the impact of race on one's poverty outcome does not change with age. The significant result on the gender and age interaction term (OR = 0.98) indicates that females have slightly lower odds of being in a higher poverty ratio category than males with every half year. The insignificant result on the race and age interaction term indicates that the impact of race on poverty status remains consistent throughout the survey period and suggests that the differences between racial groups do not diminish as respondents age.

There is however variation on the impact of race based on gender for Black respondents. The odds ratio above 1 on the Black and female interaction term indicates that the negative

impact of being Black on one's poverty status is more pronounced for Black females, both in comparison to Black males (interaction OR = 1.57) and in comparison to White females (bold OR = 3.81). The results on this interaction term confirm that Black women in this sample have the highest odds of being in a household in poverty, and the results are particularly stark between Black and White women. There are no significant differences in the effects of race on poverty status between Hispanic men and women.

The education covariate shows some distinct variation in the positive impacts of higher levels of education across both gender and race. The interaction terms below one for both female and Black respondents in particular indicate that a higher education level more markedly reduces the odds of being in a higher poverty group than It does for either male or White respondents. Therefore, the odds of being in a higher poverty category for Black respondents are much lower for those who receive Bachelor's Degrees (OR = 0.04) and Master's Degrees (OR = 0.03) compared to Black respondents with no qualifications. There are also prominent education impacts for women, where the odds of poverty are much lower for women with AA degrees (OR = 0.09), and Bachelor's Degrees (OR = 0.07) and above.

Block 2: Employment Domain (Table 22)

The impact of the respondent's annual employment income on household poverty status results in a coefficient as expected: as logged annual employment income increases by one unit, a respondent has 0.43 times lower odds of being in a higher poverty group. This effect size also is not affected by any of the family formation characteristics in Block 3, and only is changed in the model with government intervention covariates.

Block 2 interactions (Table 24)

It is valuable to determine if the positive impacts of the respondent's annual employment income differ by racial group. Table 22 shows significant interactions for all racial groups, with the odds ratios closer to zero for both Black and Hispanic respondents indicating that their employment income has a larger impact on decreasing their odds of being in a higher poverty ratio category than the wage income of White respondents. For Black and Hispanic respondents, a one-unit increase in their logged annual employment income lowers the odds of being in a high poverty category by a factor of 0.39, while the impact for White respondents is slightly less (OR = 0.46). This evidence suggests that employment income is

a more notable factor in the poverty outcomes for these respondents, issues that are returned to in detail in Chapter 6.

Block 3: Family Formation Domain (Table 22)

All of the family formation covariates entered into the model were significant, although two areas in particular warrant extended explanation given the results on the individual outcomes. The results on the age at initial move out covariate show that respondents who leave the parental home at any age before 24 have higher odds of being in a higher poverty category than those who stay at home until at least 24, with large odds ratios for early movers (OR = 1.45) and those who leave between 19-21 (OR = 1.55). The negative odds ratios for early movers suggests that staying in the parental home is associated with more positive household economic outcomes for those who can benefit from this type of support in the youth period (lower odds of poverty). The result on the moving back covariate also illustrates this family safety net characteristic, as respondents who move back at least once have lower odds of being in a higher poverty category than those who make a permanent exit (OR = 0.89). For this sample, then, the ability to stay in the parental home until 24 and the ability to return if an initial move out is not successful provides more positive impacts on poverty status in the long term. The positive results of staying in the parental home on one's long term poverty outcome trajectory is juxtaposed with the negative results of staying in the parental home on one's work intensity and wage trajectory: respondents who leave earlier are more engaged in the labour market and have higher wages through their 20s. The results on this covariate across all models suggest that there may be some demographic and family characteristics of 'late' movers that impact their more positive results for the household poverty outcome, which are tested for in Block 3 interactions of age at move out with race and Block 4 interactions with parental aid history.

The second most notable covariate among family formation characteristics is the impact of young parenthood. Here, the odds of being in a high poverty category are over two times larger for respondents who are young parents compared to those who are not. Because this main effect is large and significant (unlike this covariate in the wages model where it was insignificant or the work intensity model where the effect sizes were smaller, iterations in Blocks 4 and 5a and 5b will be considered with this main effect rather than an interaction term. However, in order to test the mediating effects of government interventions on young parents (particularly for young female parents), the Block 5c iteration of Table 20

includes the young parenting and female interaction term covariate in the table of main effects.

Block 3 interactions (Table 24)

There are two interaction terms which are significant with the age at initial move out covariate, race and the experience of moving back. The interaction terms below 1 for both Black and Hispanic respondents indicate that the experience of moving out initially before age 24 does not negatively impact poverty status as much as it does for White respondents. The moving out main effects in this iteration indicate that White respondents who move out early have odds of being in a higher poverty category around 2 times higher than White respondents who don't move out before 24. These differences in odds are not nearly as large and are insignificant among Black respondents (odds ratios in bold). This seems to suggest that the positive impacts of staying in the family home until age 24 on poverty outcomes is an experience concentrated more among White sample members on average.

The odds ratios less than one on the moving out and moving back interaction terms indicate that moving back into the family home moderates the negative impacts of making an early move out on long term poverty outcomes. For the sample of respondents who make a permanent move out of the family home (the main effects), moving out permanently before 19 results in 1.73 times higher odds of being in a higher poverty group and moving out permanently between 21-24 results in 1.28 times higher odds than those who move out after 24. For those who make a move back in with their parents after an early initial move out, the smaller bold odds ratios indicate lower negative impacts of making an initial move out before age 21 on one's odds of being in a higher poverty group (early movers OR = 1.14, 19-21 movers OR = 1.22).

The two interactions on the young parenthood covariate, one with race and one with gender, show significantly different impacts of young parenthood for female and Black respondent poverty outcomes. An odds ratio of 1.37 on the female and young parent interaction term indicates that female young parents have worse poverty outcomes resulting from this experience. Therefore, there are particularly large differences in the odds of being in a higher poverty category for female young parents compared to females who do not have children before age 24 (OR = 2.62). Although the difference in odds ratios is also quite large between men who have children before 24 and men who do not have children (OR = 1.92), the result confirms that women are more negatively impacted by the

experience of young parenthood across all economic independence outcomes than men. The final interaction with young parenthood indicates that young Black parents have higher odds of being in a higher poverty group than other racial groups (OR = 1.37), and confirms that young Black parents have perhaps the worst long term poverty outcomes compared to all other groups on average. When compared to those in the same racial group White young parents have 1.99 times higher odds of being in poverty than childless White respondents, while Black young parents have 2.72 times higher odds of being in a higher poverty category than Black cohort members who do not have children in the youth period.

Block 4: Parental Background (Table 22)

The results at the end of Block 4 confirm that those with parental aid history[56] have 1.63 times higher odds of being in a higher poverty group. This effect is slightly reduced when any benefit receipt is added to the model (OR = 1.56) and when SNAP and TANF are included in the model (OR = 1.58), which suggests a relationship between SNAP and TANF receipt and parental aid history. Controlling for parental background slightly reduces the negative independent effects on the Black covariate, increases the positive impacts of the education covariate, and slightly reduces the negative impact of moving out before age 24. The mediating impacts on the Black covariate with parental aid included are consistent with the mediating impacts of parental background on race in the individual models. The reduction in the effect of moving out before age 24 when parental aid history is included in the model provides further evidence that moving out is indeed a function of (and often contingent on) one's parental background: part of the negative impacts of an early move out may be due to young people being forced to live on their own without parental resources, while others may choose to live on their own. Once controlled for by the prior variable of parental background, the effect size of moving out decreases.

Block 4 interactions (Table 23)

The impact of a respondent's parental aid history on their poverty outcome is moderated slightly by age and differs between Black and White respondents, given by interaction terms in Table 25. The interaction odds ratio of 0.98 on parental aid and age indicates that there is a slight decrease in the negative impact of parental aid on one's poverty outcomes

[56] The specification of this parental background indicator, which differs from the other two models, and the rationale for its use is detailed in full in Chapter 3.4

as respondents age: however, the odds ratio relatively close to one suggests that the change is minimal. The impact of parental aid history also differs notably between Black and White respondents, as the interaction odds ratio of 1.48 indicates that parental aid history has a more negative impact on Black respondent poverty outcomes than for White respondents. The resulting odds ratios among Black respondents therefore show much higher odds of being in a poverty group for respondents with parental aid history compared to Black respondents without (bold OR = 2.18).

Block 5: Government interventions (Table 22)

The results of receiving any type of means-tested benefits and receiving SNAP or TANF have particularly negative impacts on household poverty outcomes. Respondents who have any benefit receipt have 2.43 times higher odds of being in a high poverty group compared to respondents with no benefit receipt. The odds ratios on the SNAP main effects are relatively similar (OR = 2.57). What is interesting in the final model is the much less negative odds ratio on the TANF main effect (OR = 1.23), which suggests that more of the negative impacts for TANF recipients are captured by controlling for other covariates such as parental aid receipt and young parenthood. Again as with the other model results on the benefit receipt covariate, the composition of the recipient population must be considered when making inferences about how benefits impact long term poverty outcomes. Those who are eligible to receive assistance are by definition living in a high poverty household, and there is indeed an association between these two experiences, which is unsurprising given the composition of the benefit population.

As with the previous individual models, the inclusion of benefit receipt covariates mediates some of the independent effects on other covariates, particularly for groups that are known to engage in the benefit system to a greater extent. The odds ratio on the young parenthood main effect in Block 5a is reduced from 2.20 to 1.74, suggesting that the experience of benefit receipt in any of the component programmes is a notable factor in the relationship between young parents and their later household poverty outcomes. The negative odds ratios are also reduced for Black respondents, although the difference in poverty outcomes between White and Black respondents is still significant. Finally, the independent effect of gender now shows a significant difference in outcomes between males and females when any benefit receipt is controlled for in the model, as females now have slightly *lower* odds of being in a higher poverty group than males in the sample (Block

5a OR = 0.84). This suggests that experiences in the welfare state indeed impact both genders quite differently, and that for women in particular interaction with government assistance is likely a factor in the more negative household poverty outcomes seen in earlier model iterations.

The final area of interest in Block 5 investigates how controlling for any benefit receipt changes the results for male and female young parents (Block 5c). Table 22 indicates that the same sort of mediating impacts of benefit receipt occur in a model of household poverty as in the individual models, particularly on indicators identifying groups that are known to have a relationship with the benefit system. The young parenthood main effect and the bold odds ratio in Block 5c show smaller negative impacts of young parenthood among men (OR = 1.63) and women (bold OR = 1.82) when compared to the results in Table 24 before benefit receipt covariates are included; where the male young parent OR = 1.92 and the female young parent OR = 2.62. Perhaps most notably, however, controlling for any benefit receipt results in an insignificant interaction odds ratio for young parenthood and gender in Block 5c (interaction OR = 1.12). This indicates that once any benefit receipt is added to a model of household poverty, there is no significant difference in the experience of young parenthood between male and female young parents. This suggests that benefit receipt should be considered as important factor in mediating the experience of household poverty outcomes for parents, particularly female young parents (a target population for policy intervention).

Block 5 interactions (Table 25)

The interaction terms for Block 5 (Table 25) show significant differences in the impacts of benefit receipt on poverty status between men and women, as any benefit receipt as well as SNAP receipt shows slightly less negative impacts on the odds of being in a higher poverty group among women than among men (interaction term odds ratios below 1). Therefore, there is a larger difference in the odds of being in a higher poverty category among men who receive any benefits than men who do not (OR = 2.61), than there is between women who receive benefits and those who do not (OR = 2.32). There are similar results for SNAP in each gender group.

The impact of any benefit receipt on household poverty also differs based on family history of aid receipt, as those with parental aid history have a slightly lower negative impact of benefit receipt on household poverty outcomes compared to respondents with no parental

aid history (interaction term OR = 0.82). Even though the results seem 'less negative' for individuals from families with aid history, this does not indicate that these respondents are better off overall – it only suggests that benefit receipt is not as large of a factor in the higher poverty outcomes of this group. The final significant interaction of Table 25 indicates that the impact of receiving SNAP differs between families who do and do not also receive TANF. The interaction term odds ratio of 0.71 indicates that SNAP has less of a negative impact on the poverty ratio for TANF families. This positive relationship between SNAP receipt and slightly more positive outcomes for TANF families is consistent with the results on the SNAP and TANF interaction terms in the other models, and suggests that the experience of receiving SNAP moderates these families' relationship to the labour market and economic outcomes more broadly, and can be a positive influence in their outcomes.

Summary

At the end of model iterations for the household poverty outcome, the demographic characteristics of race and gender remain valuable factors to consider, both as independent covariates and as factors that moderate the experience of both young parenthood and benefit receipt. Black respondents on average, and particularly Black women, have higher odds of being in a household in poverty across all demographic groups. However, controlling for benefit receipt slightly limits the negative independent impact of race for Black respondents and reverses the direction of odds on the gender covariate. Once benefit receipt is controlled for women have *lower* odds of being in a higher poverty household, and suggests that experience in the benefit system is a larger factor in explaining the economic outcomes of women compared to men.

Youth transitions experiences – moving out and young parenthood – were found to have long-lasting impacts on household poverty outcomes. Those who move out before 24 were found to have higher odds of being in a poverty category compared to those who were able to benefit from a parental safety net in the form of co-residence. These more positive impacts were also seen when the poverty outcomes were compared between young people who move out early but were then able to move back in with their parents and those who made a permanent exit at a younger age. The results suggest that the ability to 'boomerang' may be associated with better long term outcomes compared to permanent early movers. Young parenthood also has negative consequences for respondent

household poverty, as these respondents had odds of being in poverty over two times larger than those who are not young parents.

Finally, the results on the benefit receipt covariate when considered as a main effect were unsurprising for this poverty outcome, which suggests that respondents who have incomes low enough to receive benefits will be less likely to move out of poverty in mid-life. However, the impact of benefit receipt is again more nuanced. The inclusion of benefits into a model of household poverty has mediating effects on the negative impacts of other characteristics -- young parenthood, race, and gender – and should be considered as an important factor influencing the experience of young parents, non-White respondents and women in particular. The experience of young parenthood is particularly scarring for young women compared to young men, but these differences are also reduced when benefit receipt is controlled for. This suggests that among some of the 'target' populations of interest (young parents, females and low-income Black respondents), benefit receipt plays a valuable role in their youth transition experience. And finally, the results here also confirm again that SNAP receipt moderates the relationship of TANF families and household poverty; a moderating factor that influences the experience for this group in a positive way.

Table 22: Longitudinal Ordered Logit Models of poverty ratio NLSY 1997, main effects (Blocks 1-5)

	Block 1		Block 2		Block 3		Block 4		Block 5a		Block 5b		Block 5c	
	OR	t	OR	t	OR	t	OR	t	OR	t	OR	t	OR	t
Age	0.92***	(-21.27)	1.06***	(13.86)	1.08***	(17.54)	1.08***	(17.51)	1.08***	(16.15)	1.07***	(14.32)	1.01***	(16.09)
Race (White)														
Black	3.06***	(20.21)	2.40***	(17.10)	2.06***	(14.32)	1.87***	(12.34)	1.76***	(11.50)	1.75***	(11.35)	1.76***	(11.59)
Hispanic	1.31***	(4.74)	1.28***	(4.63)	1.25***	(4.34)	1.20***	(3.57)	1.18**	(3.27)	1.21***	(3.76)	1.18**	(3.29)
Mixed Race	1.57*	(2.36)	1.31	(1.45)	1.18	(0.91)	1.10	(0.55)	1.06	(0.33)	1.07	(0.39)	1.05	(0.29)
Female	1.46***	(8.76)	1.12**	(2.77)	0.95	(-1.32)	0.93	(-1.86)	0.84***	(-4.37)	0.86***	(-3.77)	0.81***	(-4.36)
Educ (No quals)														
GED	0.50***	(-7.55)	0.60***	(-6.02)	0.63***	(-5.75)	0.64***	(-5.53)	0.67***	(-5.11)	0.67***	(-5.03)	0.67***	(-5.14)
HS Diploma	0.20***	(-20.60)	0.30***	(-16.77)	0.36***	(-14.17)	0.39***	(-13.03)	0.43***	(-12.18)	0.44***	(-12.05)	0.43***	(-12.25)
AA	0.13***	(-19.39)	0.21***	(-15.66)	0.28***	(-13.18)	0.31***	(-12.21)	0.35***	(-11.42)	0.35***	(-11.24)	0.25***	(-11.49)
Bachelor's	0.12***	(-25.04)	0.17***	(-21.95)	0.25***	(-16.88)	0.30***	(-14.46)	0.35***	(-12.98)	0.35***	(-13.01)	0.35***	(-13.00)
Master's	0.09***	(-18.76)	0.13***	(-16.65)	0.21***	(-13.30)	0.25***	(-11.87)	0.30***	(-10.53)	0.29***	(-10.65)	0.30***	(-10.52)
PhD	0.10***	(-4.95)	0.12***	(-3.96)	0.19**	(-3.19)	0.26*	(-2.56)	0.32*	(-2.24)	0.32*	(-2.23)	0.32*	(-2.23)
Prof Deg	0.14***	(-9.17)	0.17***	(-7.78)	0.26***	(-6.09)	0.31***	(-5.20)	0.37***	(-4.52)	0.37***	(-4.51)	0.38***	(-4.51)
Geog (Rural)														
Urban	1.12**	(2.64)	1.24***	(4.76)	1.22***	(4.62)	1.23***	(4.79)	1.22***	(4.75)	1.22***	(4.72)	1.22***	(4.74)
Unknown	1.10	(1.17)	1.25**	(2.68)	1.26**	(2.79)	1.27**	(2.84)	1.25**	(2.68)	1.26**	(2.80)	1.25**	(2.69)
Census Reg (NE)														
North Central	1.30***	(3.65)	1.19*	(2.57)	1.17*	(2.41)	1.17*	(2.41)	1.16*	(2.38)	1.15*	(2.25)	1.16*	(2.38)
South	1.25***	(3.54)	1.23***	(3.38)	1.22***	(3.41)	1.23***	(3.49)	1.25***	(3.96)	1.24***	(3.74)	1.25***	(3.96)
West	1.31***	(3.78)	1.34***	(4.20)	1.37***	(4.70)	1.37***	(4.79)	1.38***	(5.05)	1.37***	(4.91)	1.38***	(5.04)
Health (Excellent)														
Very Good	0.99	(-0.43)	0.99	(-0.25)	0.99	(-0.37)	0.98	(-0.52)	0.97	(-0.80)	0.97	(-0.81)	0.97	(-0.77)
Good	1.10*	(2.54)	1.09*	(2.29)	1.09*	(2.15)	1.07	(1.89)	1.05	(1.31)	1.05	(1.34)	1.05	(1.32)
Fair	1.37***	(5.75)	1.29***	(4.71)	1.28***	(4.49)	1.25***	(4.16)	1.20***	(3.42)	1.19**	(3.19)	1.20***	(3.42)
Poor	1.67***	(3.67)	1.38*	(2.45)	1.34*	(2.17)	1.30	(1.94)	1.17	(1.17)	1.13	(0.89)	1.17	(1.17)
Annual wages (ln)			0.43***	(-51.34)	0.43***	(-51.41)	0.43***	(-51.37)	0.44***	(-50.43)	0.45***	(-50.04)	0.44***	(-50.34)
Married					0.56***	(-13.17)	0.56***	(-13.10)	0.53***	(-15.03)	0.56***	(-13.63)	0.53***	(-14.98)
Young parenting					2.27***	(18.17)	2.20***	(17.66)	1.74***	(12.55)	1.92***	(15.00)	1.63***	(8,36)
Yparent*Female													1.12	(1.50)
													1.82	
Moved out (> 24)														
Before 19					1.45***	(6.35)	1.42***	(6.06)	1.40***	(6.02)	1.40***	(5.90)	1.40***	(6.02)
19-21					1.55***	(7.50)	1.52***	(7.28)	1.48***	(7.09)	1.48***	(7.00)	1.48***	(7.09)
21-24					1.19**	(3.08)	1.18**	(2.86)	1.16**	(2.75)	1.16**	(2.67)	1.16**	(2.76)
Moved back					0.89**	(-2.73)	0.89**	(-2.89)	0.87***	(-3.52)	0.87***	(-3.56)	0.87***	(-3.50)
Parental aid														
Yes							1.63***	(11.46)	1.56***	(10.92)	1.58***	(11.05)	1.56***	(10.90)

Missing				1.29***	(3.81)	1.26***	(3.53)	1.27***	(3.71)	1.26***	(3.51)
Benefit recipient						2.43***	(23.90)			2.42***	(23.67)
SNAP recipient								2.57***	(22.60)		
TANF recipient								1.23*	(2.50)		
Observations	49981	49981	49981	49981		49981		49885	49981		
Cases	6947	6947	6947	6947		6947		6945	6947		

Displayed are odds ratios from an ordered logistic regression of poverty ratio with t statistics in parentheses; odds ratios in bold are those resulting from the interaction term. ***p<0.001, **p<0.01 *p<0.05

Table 23: Longitudinal Ordered Logistic Models of Poverty Ratio 1997 National Longitudinal Survey of Youth, interaction effects (Block 1)

	Gender *Age		Race *Age		Race *Gender		Education *Race		Education *Gender	
	OR	t	OR	t	OR	t	OR	t	OR	t
Age	0.93***	(-13.34)	0.92***	(-15.45)	0.92***	(-21.27)	0.92***	(-21.31)	0.92***	(-21.25)
Female	2.32***	(4.18)	1.45***	(8.75)	1.26***	(3.93)	1.47***	(8.98)	2.48***	(6.31)
Female*Age	0.98*	(-2.36)								
Race										
Black	3.07***	(20.22)	2.03**	(2.98)	2.42***	(11.77)	5.29***	(9.32)	3.08***	(20.37)
Hispanic	1.31***	(4.74)	1.86*	(2.38)	1.25**	(2.94)	1.46*	(2.32)	1.31***	(4.76)
Mixed Race	1.57*	(2.36)	0.21	(-1.37)	1.17	(0.63)	7.87*	(2.32)	1.51*	(2.15)
Education										
GED	0.50***	(-7.54)	0.50***	(-7.56)	0.51***	(-7.46)	0.47***	(-5.31)	0.60***	(-4.39)
HS Diploma	0.20***	(-20.60)	0.20***	(-20.63)	0.20***	(-20.63)	0.23***	(-11.92)	0.23***	(-14.94)
AA	0.13***	(-19.38)	0.13***	(-19.39)	0.13***	(-19.52)	0.16***	(-11.61)	0.17***	(-12.29)
Bachelor's	0.12***	(-25.04)	0.12***	(-25.05)	0.12***	(-24.99)	0.17***	(-14.31)	0.18***	(-15.33)
Master's	0.09***	(-18.76)	0.09***	(-18.80)	0.09***	(-18.81)	0.14***	(-12.17)	0.21***	(-8.32)
PhD	0.10***	(-4.93)	0.10***	(-4.96)	0.10***	(-4.93)	0.10***	(-4.12)	0.24**	(-2.76)
Prof Deg	0.14***	(-9.18)	0.14***	(-9.18)	0.14***	(-9.19)	0.24***	(-6.18)	0.23***	(-4.71)
Geog (Rural)										
Urban	1.12**	(2.61)	1.12**	(2.62)	1.12*	(2.55)	1.12*	(2.52)	1.12*	(2.52)
Unknown	1.10	(1.19)	1.10	(1.15)	1.10	(1.14)	1.10	(1.16)	1.10	(1.13)
Census Reg (NE)										
North Central	1.30***	(3.65)	1.30***	(3.67)	1.30***	(3.70)	1.29***	(3.61)	1.31***	(3.71)
South	1.25***	(3.53)	1.25***	(3.55)	1.26***	(3.61)	1.28***	(3.91)	1.26***	(3.62)
West	1.31***	(3.75)	1.31***	(3.76)	1.32***	(3.85)	1.33***	(3.98)	1.31***	(3.80)
Health (Excellent)										
Very Good	0.98	(-0.53)	0.98	(-0.44)	0.98	(-0.44)	0.99	(-0.19)	0.99	(-0.37)
Good	1.10*	(2.43)	1.10*	(2.55)	1.10*	(2.49)	1.12**	(2.88)	1.10**	(2.58)
Fair	1.36***	(5.66)	1.37***	(5.78)	1.37***	(5.68)	1.39***	(5.99)	1.37***	(5.74)
Poor	1.67***	(3.67)	1.67***	(3.67)	1.66***	(3.63)	1.69***	(3.75)	1.67***	(3.63)
Race*Age										
Black*Age			1.02	(1.76)						
Hispanic*Age			0.99	(-1.36)						
Mixed Race*Age			1.08	(1.78)						
Race*Gender										
Black*Female					1.57***	(4.37)				
					3.81					
Hispanic*Female					1.10	(0.89)				
					2.05					
Mixed Race					1.82	(1.56)				
*Female					0.37					

Educ*Race				
GED* Black	0.94	(-0.28)		
	0.44			
HS Dip *Black	0.66*	(-2.16)		
	0.15			
AA* Black	0.67	(-1.57)		
	0.11			
Bachelor's*Black	0.24***	(-6.49)		
	0.04			
Masters*Black	0.23***	(-4.55)		
	0.03			
PhD*Black	1.87	(0.87)		
	0.20			
Prof Deg*Black	0.11***	(-3.37)		
	0.02			
GED* Hispanic	1.36	(1.40)		
HS Dip*Hispanic	0.95	(-0.31)		
AA* Hispanic	0.74	(-1.14)		
Bachelor's*Hispanic	0.79	(-1.13)		
Master's*Hispanic	0.69	(-0.98)		
Prof Deg*Hispanic	0.33	(-1.43)		
GED*Mixed	0.36	(-1.07)		
HS Dip *Mixed	0.17	(-1.84)		
AA*Mixed	0.07*	(-2.41)		
Bachelor's*Mixed	0.21	(-1.63)		
Masters*Mixed	0.09	(-1.63)		
Prof Deg*Mixed	0.64	(-0.48)		
Educ*Gender				
GED*Female			0.64*	(-2.37)
			0.39	
HS Dip*Female			0.71*	(-2.13)
			0.16	
AA*Female			0.54**	(-2.92)
			0.09	
Bachelor's*Female			0.38***	(-5.81)
			0.07	
Master's*Female			0.23***	(-5.96)
			0.05	
PhD* Female			0.23	(-1.82)
			0.05	
Prof Deg*Female			0.36*	(-2.46)
			0.08	

Observations	49981	49981	49981	49981	49981
Cases	6947	6947	6947	6947	6947

Displayed are odds ratios from an ordered logistic regression of poverty ratio with t statistics in parentheses; odds ratios in bold are those resulting from the interaction term. ***p<0.001, **p<0.01 *p<0.05

Table 24: Longitudinal Ordered Logit Models of poverty ratio NLSY 1997, interaction effects (Blocks 2-3)

	Employment income*Race		Moved out *Race		Moved out *move back		YParent* Gender		YParent* Race	
	OR	t	OR	t	OR	t	OR	t	OR	t
Age	1.06***	(13.79)	1.08***	(17.50)	1.08***	(17.57)	1.08***	(17.41)	1.08***	(17.48)
Race										
Black	11.36***	(7.58)	2.84***	(10.05)	2.07***	(14.36)	2.07***	(14.38)	1.82***	(9.35)
Hispanic	6.33***	(5.43)	1.65***	(5.21)	1.26***	(4.46)	1.26***	(4.38)	1.22***	(3.04)
Mixed Race	0.09*	(-2.55)	1.65	(1.07)	1.19	(0.95)	1.16	(0.79)	1.07	(0.30)
Annual wages (ln)	0.46***	(-38.18)	0.43***	(-51.40)	0.43***	(-51.41)	0.43***	(-51.24)	0.43***	(-51.40)
Wages*Race										
Wages*Black	0.84***	(-5.05)								
	0.39									
Wages*Hispanic	0.84***	(-4.90)								
	0.39									
Wages*Mixed	1.34**	(2.89)								
	0.62									
Female	1.12**	(2.83)	0.94	(-1.44)	0.95	(-1.36)	0.85***	(-3.32)	0.95	(-1.28)
Education (No quals)										
GED	0.61***	(-5.98)	0.63***	(-5.67)	0.63***	(-5.76)	0.62***	(-5.84)	0.62***	(-5.81)
HS Diploma	0.30***	(-16.63)	0.37***	(-14.03)	0.36***	(-14.16)	0.36***	(-14.38)	0.36***	(-14.24)
AA	0.21***	(-15.56)	0.29***	(-13.07)	0.28***	(-13.17)	0.28***	(-13.35)	0.28***	(-13.31)
Bachelor's Deg	0.17***	(-21.73)	0.25***	(-16.78)	0.25***	(-16.85)	0.25***	(-16.91)	0.24***	(-17.07)
Master's Deg	0.14***	(-16.48)	0.21***	(-13.33)	0.21***	(-13.29)	0.21***	(-13.25)	0.20***	(-13.46)
PhD	0.12***	(-4.00)	0.19**	(-3.20)	0.19**	(-3.21)	0.20**	(-3.13)	0.19**	(-3.23)
Professional Deg	0.17***	(-7.70)	0.25***	(-6.13)	0.26***	(-6.10)	0.26***	(-6.05)	0.25***	(-6.21)
Geog (Rural)										
Urban	1.23***	(4.61)	1.23***	(4.67)	1.22***	(4.60)	1.22***	(4.59)	1.22***	(4.58)
Unknown	1.25**	(2.67)	1.26**	(2.82)	1.26**	(2.76)	1.26**	(2.80)	1.26**	(2.79)
Census Reg (NE)										
North Central	1.19**	(2.60)	1.17*	(2.35)	1.17*	(2.40)	1.17*	(2.42)	1.17*	(2.36)
South	1.22***	(3.30)	1.22***	(3.36)	1.22***	(3.39)	1.22***	(3.40)	1.22***	(3.43)
West	1.33***	(4.16)	1.35***	(4.53)	1.36***	(4.66)	1.36***	(4.68)	1.36***	(4.66)
Health (Excellent)										
Very Good	0.99	(-0.15)	0.99	(-0.38)	0.99	(-0.35)	0.99	(-0.32)	0.99	(-0.34)
Good	1.10*	(2.44)	1.09*	(2.18)	1.09*	(2.18)	1.09*	(2.16)	1.09*	(2.19)
Fair	1.30***	(4.86)	1.28***	(4.50)	1.28***	(4.53)	1.28***	(4.49)	1.28***	(4.49)
Poor	1.39*	(2.46)	1.34*	(2.18)	1.34*	(2.18)	1.33*	(2.15)	1.34*	(2.18)
Married			0.56***	(-13.13)	0.56***	(-13.22)	0.56***	(-13.08)	0.57***	(-13.01)
Married*Female										
Young parenting			2.27***	(18.14)	2.25***	(17.99)	1.92***	(10.46)	1.99***	(10.63)

YParent*Female						1.37***			
						2.62			
YParent*Race									
YParent*Black								1.37**	(-2.98)
								2.72	
YParent*Hispanic								1.12	(1.10)
								2.23	
YParent*Mixed								1.34	(0.77)
								2.67	
Moved out (>24)									
Before 19		1.90***	(7.45)	1.73***	(6.87)	1.46***	(6.35)	1.46***	(6.43)
19-21		2.00***	(8.06)	1.77***	(7.29)	1.55***	(7.51)	1.54***	(7.42)
21-24		1.35***	(3.30)	1.28***	(3.34)	1.20**	(3.11)	1.19**	(3.03)
Moved back		0.89**	(-2.74)	1.18	(1.83)	0.90**	(-2.70)	0.90**	(-2.98)
Moved out*Race									
Before 19*Black		0.53***	(-4.64)						
		1.00							
19-21*Black		0.65**	(-3.14)						
		1.31							
21-24*Black		0.83	(-1.34)						
		1.12							
Before 19*Hispanic		0.69**	(-2.71)						
		1.32							
19-21*Hispanic		0.60***	(-3.71)						
		1.20							
21-24*Hispanic		0.83	(-1.32)						
		1.12							
Before 19*Mixed		0.76	(-0.48)						
19-21*Mixed		0.436	(-1.39)						
21-24*Mixed		0.85	(-0.29)						
Moved out*Moved back									
Before 19*Yes				0.66***	(-3.52)				
				1.14					
19-21*Yes				0.69**	(-3.11)				
				1.22					
21-24*Yes				0.76*	(-2.25)				
				0.98					
Observations	49981	49981		49981		49981		49981	
Cases	6947	6947		6947		6947		6947	

Displayed are odds ratios from an ordered logistic regression of poverty ratio with t statistics in parentheses; odds ratios in bold are those resulting from the interaction term. ***p<0.001, **p<0.01 *p<0.05

Table 25: Longitudinal Ordered Logit Models of poverty ratio NLSY 1997, interaction effects (Blocks 4-5)

	Parental aid *Age		Parental aid*Race		Benefit recd *Gender		Benefit recd* Parental aid		SNAP *Gender		SNAP *TANF	
	OR	t	OR	t	OR	t	OR	t	OR	t	OR	t
Age	1.11***	(16.00)	1.08***	(17.50)	1.08***	(16.18)	1.08***	(16.12)	1.07***	(14.34)	1.07***	(14.21)
Race												
Black	1.87***	(12.32)	1.44***	(4.38)	1.76***	(11.54)	1.75***	(11.48)	1.75***	(11.38)	1.75***	(11.36)
Hispanic	1.21***	(3.62)	1.20*	(2.35)	1.18**	(3.26)	1.17**	(3.19)	1.21***	(3.74)	1.21***	(3.77)
Mixed Race	1.10	(0.54)	0.98	(-0.08)	1.06	(0.36)	1.06	(0.32)	1.07	(0.41)	1.07	(0.39)
Female	0.93	(-1.91)	0.93	(-1.88)	0.86***	(-3.51)	0.84***	(-4.35)	0.88**	(-3.14)	0.86***	(-3.76)
Educ (No quals)												
GED	0.64***	(-5.49)	0.64***	(-5.56)	0.67***	(-5.10)	0.67***	(-5.15)	0.68***	(-5.00)	0.67***	(-5.02)
HS Diploma	0.40***	(-12.94)	0.39***	(-13.10)	0.43***	(-12.12)	0.43***	(-12.22)	0.44***	(-11.99)	0.44***	(-12.05)
AA	0.31***	(-12.17)	0.31***	(-12.25)	0.35***	(-11.38)	0.35***	(-11.46)	0.35***	(-11.20)	0.35***	(-11.25)
Bachelor's	0.30***	(-14.32)	0.29***	(-14.60)	0.35***	(-12.96)	0.35***	(-12.94)	0.35***	(-12.97)	0.35***	(-13.01)
Master's	0.25***	(-11.79)	0.25***	(-11.98)	0.30***	(-10.54)	0.30***	(-10.49)	0.29***	(-10.65)	0.30***	(-10.65)
PhD	0.28*	(-2.55)	0.26*	(-2.56)	0.32*	(-2.26)	0.32*	(-2.22)	0.32*	(-2.23)	0.32*	(-2.23)
Prof Deg	0.32***	(-5.14)	0.31***	(-5.33)	0.37***	(-4.52)	0.38***	(-4.49)	0.37***	(-4.50)	0.37***	(-4.51)
Geog (Rural)												
Urban	1.22***	(4.61)	1.23***	(4.78)	1.22***	(4.75)	1.22***	(4.76)	1.22***	(4.73)	1.22***	(4.72)
Unknown	1.26**	(2.77)	1.27**	(2.85)	1.25**	(2.67)	1.25**	(2.70)	1.26**	(2.80)	1.26**	(2.81)
Census Reg (NE)												
North Central	1.17*	(2.44)	1.17*	(2.38)	1.16*	(2.37)	1.16*	(2.40)	1.15*	(2.26)	1.15*	(2.23)
South	1.22***	(3.47)	1.22***	(3.46)	1.25***	(3.97)	1.25***	(3.96)	1.24***	(3.76)	1.24***	(3.72)
West	1.37***	(4.79)	1.37***	(4.75)	1.38***	(5.05)	1.38***	(5.04)	1.37***	(4.93)	1.37***	(4.90)
Health (Excellent)												
Very Good	0.98	(-0.59)	0.98	(-0.47)	0.97	(-0.84)	0.97	(-0.81)	0.97	(-0.85)	0.97	(-0.81)
Good	1.07	(1.86)	1.08	(1.93)	1.05	(1.28)	1.05	(1.30)	1.05	(1.32)	1.05	(1.34)
Fair	1.26***	(4.22)	1.25***	(4.18)	1.20***	(3.40)	1.20***	(3.44)	1.19**	(3.18)	1.19**	(3.16)
Poor	1.31*	(2.06)	1.29	(1.92)	1.17	(1.17)	1.17	(1.19)	1.13	(0.89)	1.13	(0.89)
Annual wages (ln)	0.43***	(-51.14)	0.43***	(-51.32)	0.44***	(-50.44)	0.44***	(-50.42)	0.45***	(-50.06)	0.45***	(-50.01)
Married	0.56***	(-13.30)	0.57***	(-13.08)	0.53***	(-15.09)	0.53***	(-15.06)	0.56***	(-13.73)	0.56***	(-13.64)
Young parenting	2.21***	(17.67)	2.20***	(17.62)	1.74***	(12.65)	1.73***	(12.54)	1.93***	(15.08)	1.92***	(14.97)
Moved out (>24)												
Before 19	1.43***	(6.14)	1.43***	(6.10)	1.40***	(6.01)	1.41***	(6.06)	1.39***	(5.88)	1.40***	(5.91)
19-21	1.53***	(7.34)	1.52***	(7.29)	1.48***	(7.10)	1.49***	(7.12)	1.48***	(7.01)	1.48***	(7.00)

21-24	1.18**	(2.93)	1.17**	(2.82)	1.16**	(2.75)	1.16**	(2.77)	1.16**	(2.68)	1.16**	(2.68)
Moved back	0.89**	(-2.94)	0.89**	(-2.91)	0.87***	(-3.53)	0.87***	(-3.52)	0.87***	(-3.52)	0.87***	(-3.59)
Parental aid												
Yes	4.80***	(7.58)	1.47***	(6.70)	1.56***	(10.93)	1.62***	(10.94)	1.58***	(11.05)	1.58***	(11.04)
Missing	3.56***	(3.76)	1.18	(1.65)	1.26***	(3.53)	1.28***	(3.45)	1.27***	(3.70)	1.27***	(3.70)
Parental aid*Age												
Yes*Age	0.96***	(-5.44)										
Missing*Age	0.96**	(-3.12)										
Parental aid*Race												
Yes*Black			1.48***	(3.84)								
			2.18									
Yes* Hispanic			1.02	(0.19)								
Yes* Mixed Race			1.398	(0.86)								
Missing*Black			1.43*	(2.08)								
Missing*Hispanic			1.06	(0.40)								
Missing*Mixed			0.87	(-0.28)								
Benefit recipient					2.61***	(16.75)	2.78***	(14.88)				
Ben Recd* Female					0.89	(-1.63)						
					2.32							
Ben Recd*P. aid												
Yes *Parental aid							0.82*	(-2.49)				
							2.27					
Yes*Missing							0.89	(-1.01)				
SNAP recipient									2.86***	(15.43)	2.61***	(22.48)
SNAP Recd*Female									0.84*	(-2.06)		
									2.41			
TANF recipient									1.24**	(2.62)	1.58**	(3.03)
SNAP*TANF											0.71	(-1.90)
											1.85	
Observations	49981		49981		49981		49981		49885		49885	
Cases	6947		6947		6947		6947		6945		6945	

Displayed are odds ratios from an ordered logistic regression of poverty ratio with t statistics in parentheses; odds ratios in bold are those resulting from the interaction term.
***p<0.001, **p<0.01 *p<0.05

A summary of the final main effects models for all three of the NLSY models is found in Table 26, included here to detail broadly the effects of each of the covariates of interest; however, these tables do not include interaction effects, which are found in the regression tables in the previous pages.

Table 26: Summary of Final Main Effect Model Results, NLSY

Variable/Covariate		**Wages** (positive = higher wages)	**Work Intensity** (positive = higher work int)	**Poverty Ratio** (positive = higher poverty)
Age		+ ***	+ ***	+ ***
Female		-- ***	+ *	-- ***
Race: Black		-- ***	-- ***	+ ***
Race: Hispanic		+	--	+ **
Education (AA +)		+ ***	+ ***	-- ***
High Work Intensity		+ ***	n/a	n/a
Wages		n/a	n/a	-- ***
Poor Health			-- ***	+
Household size		-- ***	-- ***	
Married				-- ***
Young Parent		+ ***	+ ***	+ ***
Young Parent*Female		+	-- ***	+ ***
Moved out before 24		+ ***	+ ***	+ ***
Moved back		-- ***	-- ***	-- ***
Parental Income Q4 / Q5		+ ***	+ ***	
Parental Aid History		n/a	n/a	+ ***
Benefit Receipt (any)		--	-- ***	+ ***
SNAP receipt		-- ***	-- ***	+ ***
TANF receipt		-- ***	-- ***	+ ***

Chapter 6: Case Comparison and Discussion

The detailed results of the previous two chapters provide new evidence for the final discussion of the broader, two-dimensional concept this investigation seeks to measure, economic independence. Considering this outcome as a combination of both individual labour market experiences and household poverty allows this work to investigate other factors that influence poverty and labour market attachment in youth beyond the structural or demographic. This chapter uses Powell and Barrientos' welfare mix (detailed in Chapter 2.3) as the analytical framework to organise the discussion of the drivers of economic independence, enabling a discussion of all of the three welfare sources that influence this concept in each case and comparatively. This chapter first discusses the key drivers of economic independence in case narratives for the US and the UK, which identify particularly pertinent issues specific to each cohort and those that are brought forth to the case comparison in Chapter 6.2. The common drivers and themes are discussed in 6.2 in the three welfare mix areas, with an eye to the contextual characteristics that drive divergent results in each case. The findings and themes that emerged in the case comparison will then be situated in reference to existing work in both of the fields of literature underpinning this investigation, followed by the broad policy implications of this work for both the US and the UK.

An important precursor to the discussion of both case results is the recognition that the most notable results on the way in which government assistance impacts youth transitions is extremely nuanced. Because of the composition of young people who are eligible to receive benefits in a means-tested system it is not particularly enlightening to detail the ways in which low-income young people compare to their higher-income (and therefore non-benefit receiving) counterparts. Rather, what is more notable to discuss is the way in which government assistance is a factor in the lives of those who receive it, and is associated with different types of youth transition experiences for particular groups. It is also valuable to underscore again the exploratory and associational nature of this investigation; this investigation is unable here to detail the causal effects of benefit receipt on these long term outcomes (see 'Nature of Causality' in Chapter 3.2), but can make some important first conclusions about how the welfare state is a factor in the economic trajectories of young people.

6.1 Drivers of Transitions to Economic Independence: Case Narratives

Key Drivers for the UK cohort

The state's role in a transition to economic independence for the UK case was illustrated most prominently by results on the timing of benefits, the type of government intervention accessed, and interactions with 'target' groups such as women and young parents. What is particularly notable in this case is that the impacts of government assistance differ based on when in the life course they are received. In the work intensity model benefit receipt was found to be a significant factor at age 30 and older, and there was no significant negative impact of receiving benefits on household income at 42 if received at age 21. These results suggest that means-tested assistance may therefore have larger impacts on economic independence outcomes when received as a part of the family of destination rather than during the period of semi-dependence in youth.

Results from the Youth Training Scheme measure also provided evidence that the type of government assistance provided in the youth period is an important consideration in future policy intervention. YTS participation either had negative or (at best) neutral impacts on a young person's economic independence, and confirmed that this type of intervention was not associated with long term positive economic outcomes for recipients. Further investigation also found that the only participants who reported positive impacts from YTS were those who did not also engage with any other type of government assistance. This suggests that activation programmes may be best able to adequately support only those participants who are not structurally disadvantaged (e.g. are not poor enough to receive benefits), which may run counter to the goals of the programme. Interventions with some of the same types of characteristics as YTS have been implemented by subsequent UK governments through the 1990s and early 2000s and remains a recommended intervention for disadvantaged young people. This research suggests that it is likely that younger cohorts may also find participation in government sponsored training programmes to play a less positive role in their long term economic outcomes than is envisioned by policymakers.

The impacts of means-tested assistance for this case also showed potentially surprising results for two of the 'target' groups for assistance, women and young parents. The results suggest that indeed benefits impact outcomes differently for men and women, but males in this British cohort were found to be more negatively impacted in their labour market

attachment than females. Importantly, this suggests that the small proportion of men who engage with government assistance in a means-tested system designed to serve primarily 'dependent' women may be some of the hardest citizens to reach. The second group with surprising results for this British cohort was young parents (10% of the sample), who are often considered a high risk group for a successful youth transition and therefore expected to interact differently with government assistance than other cohort members. However, the impact of benefit receipt did not differ for this group, indicating that benefits impact long term economic outcomes in the same way regardless of young parenting experience for this cohort. Benefits were however found to be a potentially notable mediating factor in the labour market trajectory of these young parents, as controlling for benefit receipt in the work intensity model decreased the difference in outcomes between young parents and non-young parents.

The second welfare source, the family of origin, can be measured either explicitly (in monetary resources) or implicitly, measured by the family's socioeconomic status. In the UK case socioeconomic background provides unsurprising results given previous evidence on the advantages of an affluent family of origin in all aspects of economic independence (Chapter 2.2). Cohort members from the upper 40% of the parental income distribution have markedly higher wage trajectories and higher odds of being in the upper income quintiles themselves in mid-life, and importantly this affluence only increases in prominence in their life course with age; even when other correlated experiences are controlled for. Rather than the gap between the rich and poor becoming narrower into adulthood, the inequalities widen. The larger effect sizes for wage income as factor in gross household income for low income sample members points to the importance of the non-wage assets and economic resources that come with an affluent background. These are valuable to consider but were not able to be captured in this investigation. Based on these models, it is therefore likely that inequalities that limit labour market returns will likely have more scarring effects on cohort members from low income families.

Finally, the importance of wage income and work intensity to overall household poverty means it is critical to understand the factors that influence the labour market welfare source of this cohort. The most notable structural factor in labour market outcomes for the British cohort is gender, with women exhibiting lower labour market attachment and subsequent wages on average than males in the sample, even when controlling for

education and employment status. Importantly, then, the experience of 'growing up' for women in this sample does not inevitably result in stronger labour market attachment or remuneration. Divergence in labour market outcomes is also likely influenced by an increase in household size on women's labour market attachment, as these models showed women's work intensity more negatively impacted by household growth. Higher educational attainment on its own was found to have a more positive impact on women's labour market experiences, suggesting that education is an important way for women in this cohort to improve labour market outcomes. Gender is also valuable to investigate from a male perspective for this cohort particularly because males in this sample have very strong and early labour market attachment, where 75% or more of males reported being in full time work from age 21 onwards compared to 50% or less of the female group. This is a period effect that likely does not arise with younger British cohorts, a there are higher proportions of females active in the labour market.

The final issue to consider is that the smaller subgroup of young parents (parents at age 21) were not found to have systematically worse outcomes on average on either individual labour market outcome or household income. The impacts of young parenthood were also not found to significantly differ between men and women, which may also be surprising given the common cultural depiction of poverty-stricken young mothers. Rather than young parents in this cohort being more disadvantaged in the labour market, young parents were found to be more attached (particularly after controlling for benefit receipt) and not have significantly worse wages on average once employment status was controlled for. Perhaps the most surprising result was in household income at age 42, where young parenthood was not a significant factor in the outcome at any point in model iterations. In each of the three models, the results indicate that the impact of young parenthood in itself is partially a consequence of other prior factors, like parental background, which are reflected in insignificant values in final model iterations. Particularly in the household income model, the results suggest that for this cohort the hypothesised negative impact of this trigger event on its own does not extend into the respondent's 40s.

Key Drivers for the US Cohort

The larger sample size of the US cohort, greater number of survey waves available, and data on specific programmes for all survey waves increased the ability to produce more nuanced findings for the US case on the effects of government intervention on economic

independence. The most notable results for this case were found when investigating government assistance for particular subgroups of cohort members. The US case confirms that the benefit system is a larger factor in the economic outcomes of women in the sample, particularly as the negative impacts of benefit receipt are exacerbated for women on the individual outcomes. However, this same type of effect was not seen on household poverty, where benefit receipt was found to be less negative for women and controlling for benefit receipt resulted in more positive household poverty outcomes for women on average than men. This may be evidence of the importance of government assistance for the poverty outcomes of females (and by extension female headed households), and affirms the gendered nature of a liberal welfare state serving more low income women than men.

Two other notable features of the US case results are the interaction of government assistance with the lives of Black Americans and young parents. In each model the independent negative effect size on the race covariate for Black Americans is reduced once benefit receipt is controlled for in all three models. The controlling effect of benefit receipt in these models for Black Americans suggests that benefit receipt is not the *cause* of poverty for this group, but rather a symptom of disadvantage that is captured by modelling benefit receipt. Black Americans in this cohort were also found not to be as negatively impacted by benefit receipt in both wages and work intensity than White Americans, which suggests much higher levels of inequality between low-income White Americans and their White peers than among the Black respondents.

The final group to consider in the US case is young parents, who generally access government assistance at higher rates due to a higher prevalence of poverty and their greater eligibility as a 'deserving' group. The results here are relatively encouraging, as controlling for benefit receipt results in reductions in the difference in effect sizes between male and female young parents in the household model and between young parents and non-young parenting peers in the individual models. This suggests that government assistance is a notable factor in the relationship between young parents and economic outcomes, and mediates how these young people transition successfully to independence. Perhaps most encouraging is that young parents who access government assistance were found to have higher odds of being attached strongly to the labour market compared to young parents without this support. The positive results for this group in particular signal

that intervention of this type is associated with some characteristics of a successful safety net, and suggests that more research is needed to understand how these young parents use government assistance to improve their youth transition outcomes.

It is also important to consider the group of very poor Americans who engage with multiple benefit programmes, the group for whom means-tested benefits have been previously found to be effective in closing the poverty gap between the very poor and those hovering around the poverty line (Chapter 2.4). Those who are in receipt of TANF are categorically eligible to receive SNAP and are more likely to be in deep poverty, and indeed the impact of receiving SNAP differs for those who are receiving TANF in this investigation. SNAP receipt was found to have a positive impact on wages for TANF recipients and was found to not scar this group's work intensity or household poverty outcomes as dramatically as for other SNAP recipients. This suggests that for Americans who are already poor enough to be receiving a small cash benefit like TANF, a programme like SNAP likely plays an important role in providing assistance to supplement very low incomes; a result which aligns with other evidence on SNAP's ability to improve the outcomes of those in deep poverty.

The US case provides evidence on both the implicit and explicit ways that the family welfare source impacts economic independence. The value of an affluent family in creating positive individual and household level outcomes for this cohort is consistent with previous evidence, as those from the top income quintiles have much more positive economic outcomes than their poorer peers. One of the factors to consider for this cohort is that those from more affluent families were found to attach earlier and more steadily to the labour market in the youth period, evidence of 'stepping stones' that may not be a common experience for lower income young people (Figure 50, Chapter 5). Parental background was also found to become a more prominent factor with age, although effects are not in the same direction for wages and work intensity. While the wages of those from more affluent families increase at a faster rate with age, the odds of being in a higher work intensity category are reduced with age. This suggests that that those from higher income families may be able to reduce their labour market attachment and still receive strong economic returns because of their place in higher waged work. The relationship between parental background and race was also confirmed for this cohort, as controlling for this factor reduced the independent effect of race for Black and Hispanic cohort members; confirming

that the impacts of race and socioeconomic background must be considered together when analysing survey data from the United States.

The more explicit measure of family resources is found in the variables on residential independence; the age of first moving out and the incidence of moving back. The results suggest that those who are able to make a permanent exit out of the parental home in the youth period may have a more 'successful' youth transition as defined by a higher wage trajectory and stronger labour market attachment. However, the conceptualisation of economic independence also includes the explicit element of poverty status, and those who made their initial move out in youth had worse poverty outcomes than those who stay until at least 24; with young people who make a permanent move out of the family home before 19 exhibiting the most negative poverty outcomes. The results here confirm that the family home for the US cohort serves as a valuable safety net in the youth period to improve later poverty outcomes, and that perhaps the experience of co-residence longer into the youth period and the 'boomerang' experience should therefore only be considered negative depending on which component of economic independence one is interested in (i.e. labour market attachment and wages, or poverty). The impact of family resources provided through co-residence also showed variation by race, where the positive impact of staying in the family home during the youth period was found to be particularly concentrated among White respondents, as Black and Hispanic respondent household poverty outcomes were not nearly as scarred by leaving the parental home earlier. Together, the two types of family resources combine to create much more positive economic independence outcomes for those who can rely on family resources during the transition period.

Two structural factors and one trigger event showed particularly notable variation in individual labour market outcomes for the US case; gender, race, and young parenthood. The results on the independent effect of gender again showed relatively unsurprising results, with women exhibiting lower wages and work intensity. Despite a smaller gap in labour market attachment between men and women in the US case, an increase in household size and the experience of young parenthood were found to more negatively impact women in the sample compared to men. Therefore, although women in this cohort were found to notably change their labour market experiences with higher levels of education, changes in the family formation domain may be the more important driver to

analyse in women's labour market experiences, especially as these effects hold even after controlling for education.

The labour market experiences of Black and Hispanic sample members were found to notably diverge from White sample members, with lower wages and work intensity on average. As with all quantitative work, the results here estimate *average effects:* not all Black respondents in the survey are poor, nor are all White respondents affluent, but the results here broadly detail the inequalities that affect different racial groups. It is also important to consider further intersectional issues beyond race and class for the US sample in particular, as the experiences of Black and Hispanic men and women differ. Black women have slightly less negative outcomes than Black men on both wages and work intensity, while Hispanic women have slightly more negative outcomes than Hispanic men. The results for Black men confirm some of the previous evidence identifying this group of Americans as particularly disadvantaged in the labour market, with worse outcomes in both labour market attachment and returns. The experience of Black women is also notable because this group has higher labour market attachment than White women overall, but without the resulting higher earnings. The results for Black women here, as in other research, point to the combination of both the gender wage gap and the racial wage gap as two of the intersectional issues at work for this group of cohort members. A pertinent issue to consider, then, and one that has been a perennial one in public policy debates, is the wage gap between men and women of all races.

The results from the individual model of wages and the wage effect sizes in the investigation of household poverty for Black and Hispanic respondents suggests that the difference in poverty outcomes for these groups is a confluence of disparities in family assets as well as lower remuneration of respondents even when attached to the labour market consistently throughout the year. Wages were found to be a more prominent factor in the household poverty outcomes of both Black and Hispanic cohort members, and therefore lack of success in the labour market will therefore have an outsized effect on household poverty. Wage gains for these groups however, were not found to be strong even when in very high work intensity; this suggests that average wages for these groups consistently lag behind White respondents even with strong labour market attachment. Education was found to be an important factor in improving wages for these groups, as higher levels of education were found to more positively impact the wage trajectories of

Black and Hispanic respondents. However, Black and Hispanic respondents with higher education levels were not found to be compensated to the same degree in the labour market as their White peers at the same education level, a result consistent with other work on the impacts of education for Black and Hispanic Americans. Given the inequalities in the labour market between racial groups, it is not likely then that the gaps in economic independence outcomes will be closed by market work alone, and it may be worthwhile to consider to what extent the state can or should be involved in the transitions for these groups.

The final factor to consider that influences the labour market welfare source is the experience of young parenthood (the case for 33% of the NLSY sample at age 24). While government assistance was found to play a potentially positive role in the experience of young parents, particularly when compared with young parents who did not receive benefits, the experience overall is still found to negatively impact labour market attachment and later household poverty on average. Therefore the experience should still be considered a risk factor affecting outcomes at least until one's early 30s for this cohort. This particular trigger event has the most negative outcomes for female young parents, with a lower wage trajectory and far lower work intensity. In fact, more positive labour market attachment for male young parents suggests that the responsibilities of parenthood may push young men into the labour market while young female parents are further unable to attach steadily. Again, however, some of the more nuanced results suggest that benefit receipt plays a valuable role in the relationship of female young parents to economic outcomes in particular; a relationship that can potentially have a positive impact on their youth transition outcomes. The final intersectional issue to consider here is that although the stereotype of 'young poor Black mother' is synonymous with government assistance in the United States (see Fraser & Gordon 1994), this trigger experience impacts young people of all races relatively consistently on individual outcomes. The only variation among young parents of different races is in household poverty, where young minority parents were more negatively affected than White parents. This could be evidence of a number of issues related to less affluent parental backgrounds for Black and Hispanic respondents that more often co-exist with young parenthood, where fewer parental resources can be drawn on for support during and after this experience.

6.2. Welfare Mix Case Comparison

The two case narratives were able to bring forth the most relevant drivers of economic independence for each cohort, both on the primary focus of this investigation (government assistance) and issues of family resources and broader labour market inequalities. This section explicitly uses the welfare mix framework to bring the case results together to speak comparatively about how the results are similar and differ among two variants of a liberal welfare state.

Although young people in liberal welfare states interact with each of the welfare sources similarly in a broad sense – with the key source of welfare first as the labour market followed by the family and the state – the contextual differences of the cases resulted in each cohort interacting with these welfare sources in slightly different ways. This section carries forward drivers of outcomes that can be compared most fruitfully using the welfare mix framework to detail a contrast of contexts in the spirit of Somers and Skocpol (1980) (issues that are notably case-specific [e.g. YTS] are found only in the previous section). This work therefore necessarily includes a comparative discussion of the way that structural inequalities underpin experiences in each of the welfare sources in each case, particularly the labour market, and how cohort experiences differ. The differences in results for each welfare source are outlined alongside the ways in which two cases that differ in both time period and country context share similarities by virtue of their place in liberal welfare states and liberal market economies.

The State

The primary focus of this research is the smallest welfare source in these two contexts, the state. A central conclusion from this work is that government assistance is indeed an important factor to consider in youth transition experiences, and the most valuable results are those which are nuanced and investigate subgroups that interact with the benefit system more notably. Three specific issues emerged from both cases: the importance of understanding the impact of government assistance for ‘target’ groups; that impacts vary based on the type of assistance received, including if respondents engage with multiple sources of assistance; and that the timing and dynamics of receipt is a valuable consideration when analysing this welfare source.

One of the primary target groups for a liberal welfare state's benefit system are females, where discussions of a gendered welfare state identify women as particularly disadvantaged by the organisation of a liberal welfare state focused on means-tested benefits (seen in Fraser & Gordon 1994). This was seen in the US sample, where the impacts of benefit receipt were found to be more negatively scarring to female work intensity and poverty ratio outcomes. This higher incidence of engagement with the benefit system was found to be an important factor in the different poverty outcomes between men and women in the US sample; once this aspect of the biography was controlled for women's household poverty outcomes were more positive. The more negative impacts of benefit receipt were not seen for women in the UK sample, which is likely due to the period effect of lower labour market participation for this older cohort of women. In the US case, more women are engaged in the labour market and therefore there is a larger gap in economic independence outcomes between women who do and do not engage in the benefit system. In current British cohorts where female labour market attachment is higher, results may likely be similar to those seen in the US case here with a more 'active' female reference group.

The gendered aspects of the welfare state should however also be considered for its impact on males in each case. For the small percentage of UK men who receive benefits (around 10-20%) their labour market attachment outcomes suggest a particularly challenging youth transition, as their work intensity outcomes are far more negatively impacted by benefit receipt than women and have much worse outcomes than men who do not receive benefits. Men were also found to be more negatively impacted by benefit receipt in their household poverty outcomes in the US, which indicates again that for the small percentage of male respondents who receive benefits (also around 10%), while their individual outcomes are not as scarred as women's outcomes, their household poverty outcomes compared to men without benefit receipt are particularly negative. These results suggest that the system of means-tested government assistance in both cases designed to serve women and lone mothers does not meet the needs of the subpopulation of men in receipt, a population that may be overlooked in policymaking.

The second notable group to consider is Black respondents, only able to be investigated in this research in the US case due to data and cohort constraints (although future UK research can engage with issues for ethnic minority groups). This group is not inherently a

'target' group as perhaps young parents are, but rather a higher proportion interacts with government assistance because of the higher proportion of group members in poverty on average. In each of the individual models Black Americans who receive benefits (particularly SNAP) are not as negative impacted in their wages or work intensity outcomes than White respondents, which provides evidence on both the wider income inequality within the group of White cohort members and the lower average wages and work intensity among Black Americans who do not interact with the benefit system. Including government assistance covariates in each of the three models also captured some of the independent impacts of race, particularly for Black respondents, and suggests that some of the 'race effect' seen in this work is a 'poverty effect' which is also measured by benefit receipt in a means-tested system. For Black respondents in particular, who were found to have the poorest labour market outcomes on average among racial groups, government assistance therefore features more prominently in these sample members' life courses. Any changes to the systems of means-tested government assistance will thus have more prominent impacts on cohort members from racial minority groups. The unique contextual issue of race and structural racism attached to the benefit system is perhaps the most notable contrast between the two cases. As noted in the literature review, 'welfare' and 'welfare dependency' in the American consciousness is often viewed as a system and a problem of (predominantly) Black communities – even if the caseload data suggests otherwise. The results here confirm that the welfare state should be considered a racialised space as well as a gendered space.

The most explicit target group for means-tested benefits found in the two cases is young parents. In both cases this group interacts more with the benefit system because of the higher proportion of young parents who are also on low incomes; however, young lone parents in this UK sample were eligible for assistance at the age 21 survey regardless of income level by virtue of only their family type (Table 1, Chapter 1). Lone parents who received benefits at 21 in the BCS sample may not necessarily be poor, and the benefit system for the BCS cohort likely serves a more heterogeneous group of young parents than the US system. Although the young parents in the UK cohort were not found to be particularly scarred by this experience as a main effect, there is evidence that benefit receipt is a mediating factor in the work intensity outcomes of young parents, and indeed plays a notable role in the transition outcomes for this group of young people. This relationship was found in the US case as well, particularly for female young parents.

Controlling for benefit receipt reduced the negative impacts of young parenthood on wages for this group, as well as reduced the differences in individual outcomes between male and female young parents. Most notable for policymakers is that young parents in this sample who access government assistance had more positive labour market attachment outcomes than young parents who did not engage with assistance, which differs from the typical image of young parents receiving government assistance as a group destined for long term welfare dependency. For this group, and potentially for other groups of young people with challenging youth trigger events, government assistance (again, often received in the short term based on the descriptive results on Chapters 4 and 5) may indeed provide a safety net during this period and also a potential springboard for future labour market attachment.

For all three of these 'target' groups (females, Black Americans and young parents) the results from this investigation indicate that the experience of receiving government assistance not only is a prominent experience in the life course, but is a factor in potentially reducing the negative impacts of structural disadvantage and of the particular youth period 'risk factor' of young parenthood. However, these more positive effects of government assistance for target groups must be viewed with the understanding that benefit receipt, and the poverty that precedes benefit receipt, will still have negative effects for mostly all economic independence outcomes even after controlling for notable structural and youth transition factors. This is due to the nature of the benefit system in a liberal welfare state which serves primarily a residualist function, and therefore the benefit recipient group will necessarily have worse economic outcomes than other young people.

There was also evidence in both cases that the type of government assistance accessed is an important consideration in analysing impacts on economic independence, although the two cases show slightly different facets of this issue. Evidence in the US case suggests a notable relationship between the receipt of SNAP and TANF benefits, and suggests that SNAP is a particularly important and positive factor in the relationship between those who are in receipt of multiple benefits and the labour market; particularly moderating the way that very poor TANF families engage with the labour market. The results for this very poor group of TANF families in particular illustrate the importance of an in-kind, guaranteed level of income support for those who are very poor in comparison to a workfare programme with harsh eligibility criteria. The nuanced results in the US case suggests that future research for a larger British sample should consider how in-kind assistance like Housing

Benefit impacts a respondent's outcome in comparison with shorter term assistance like JSA. The UK case was also able to determine the relative merits of cash assistance, here in comparison with a government-sponsored training programme. In this case there were far *less* negative impacts of cash assistance to BCS sample members and much *more* negative impacts from participation in YTS. The UK case suggests that cash assistance received in the youth period may be a more adequate government intervention in this period than a training programme. Notably in both cases investigated here the impact of in-work benefits was not able to be explored explicitly, which will likely return different results given the different characteristics of those who access these benefits.

Finally, there is evidence here to suggest that the timing of benefit receipt in the life course and the dynamics of benefit receipt are important factors to consider when analysing long term outcomes. The impact of benefit receipt emerging only if received after 30 for the individual outcome of work intensity in the UK case and benefit receipt at 21 not significant to household incomes at age 42 suggest that benefit receipt in the youth period may not be as consequential to long-term outcomes as those received in the family of destination. This suggests that the during the period of semi-dependence before career and family formation trajectories have stabilised, it might be valuable to consider that short term benefits may be a potentially positive intervention. Importantly for these cohorts, benefits are rarely received in many consecutive years (or survey periods) from the youth period onward, and rather recipients move off and on benefits as they become eligible. Based on the investigation of 'runs' of consistent benefit receipt for both samples, benefit receipt for these cohorts should be considered a short-term event as opposed to a continuous one, consistent with what is known about welfare dynamics in other cohorts. There is little evidence here that assistance in the youth period will lead to a 'lifetime' of consistent benefit receipt, however low income may still be a prevalent issue in their life course. It is valuable therefore to consider what benefits may be most valuable to stabilise young people in this period so that they do not become families who also must rely on means-tested benefits for subsistence.

Even with the positive results on the timing of benefits, when the full survey period was considered the UK case still did not reveal any more positive long term results for benefit recipients than the US case. Importantly, the supposedly more 'generous' benefit system of

the UK for this BCS cohort did not drastically alter the trajectory of low income young people compared to their non-poor peers.

Because of the means-tested system and the composition of the benefit receipt population, what is perhaps more relevant is to consider how an episode of benefit receipt can or cannot alter the youth transitions of respondents who are more at risk of having 'unsuccessful' outcomes by virtue of their place in disadvantaged groups. Evidence in both cases suggests that the benefit system plays a role in the youth transition outcomes particularly for young parents and those who are very poor, with some preliminary results suggesting that this may be associated with improving economic outcomes for these groups. The mediating impacts of benefit receipt for females in both cases and Black Americans in the US case also suggest that the benefit system also has a notable relationship with how these young people improve their economic outcomes throughout the youth period, again a potentially positive relationship. The more positive results for these disadvantaged groups indicates that benefit receipt is not a *cause* of further poverty, but it is rather a symptom of current poverty. Importantly to policymakers, the results here also indicate that there are very few recipients who stay consistently on benefits from youth to adulthood; rather, as with the dynamics of poverty, recipients move on and off benefits often as a response to their changing income and asset levels. Because of the short term and dynamic nature of benefit receipt, the results here suggest that flexible cash assistance may be a more responsive and appropriate way to provide assistance to low income young people.

The Family

Work on the first and smaller aspect of a liberal welfare state's welfare mix, state intervention, suggested that the impact of benefit receipt on economic independence outcomes is a particularly notable feature for target groups of respondents, with nuanced results for different benefit programmes and when in the life course benefits are received. However, the more prominent driver of economic independence in both cases is the family of origin – indeed, it is impossible to even consider the supplemental effects of benefit receipt on a young person's transition experience without controlling for and explicitly estimating the effects of parental background. In each of the cases respondents' parental background impacted outcomes in a relatively consistent fashion, providing distinct variation among cohort members in both individual and household incomes. In both cases

the gaps in wage outcomes between those from lower and higher income families do not close as cohorts age; rather affluence continues to impact outcomes positively well into adulthood while those from poorer families struggle by comparison, even as employment and education factors are controlled for. There is emerging evidence in each case that an affluent family passes down resources that are not often explicitly measured, suggested by the larger role that wage income plays in the overall household poverty outcomes of lower income young people.

The US case also provides detail on explicit family of origin resources, here measured in support provided through longer periods of co-residence. The results show that the family of origin provides support structures for young people transitioning to independence and in particular serves as a foundation for cohort members to have lower levels of household poverty in their 30s. The positive impact of staying in the parental home in the youth period is more notably experienced by the average White respondent, and confirms that this welfare source is indeed an avenue whereby White families on average are more able to pass down their affluence. An important contextual consideration for this investigation is that the experience of residential support through co-residence during the youth period was not prominent for the older UK cohort: indeed, over 90% of this cohort lived permanently away from their parents at age 21. This is a distinct way that the contexts of each cohort differ in this investigation. The cohort effects on the residential independence variables that were found in the US case may appear in later UK cohorts given the trends in co-residence: the increasing number of British young people living with their parents into their mid- to late-20s during the 1990s and 2000s means that future analyses will necessarily engage with these residential independence issues. Importantly, in a liberal welfare state with very low levels of state assistance, family resources will become even more prominent in future research on transitions to economic independence.

The Labour Market

As the labour market is the largest resource for young people to improve their economic independence in a liberal welfare state, the factors that cause variation in the labour market will therefore also be some of the largest drivers of economic independence. The structural drivers of gender and race and the trigger event of young parenthood are discussed in this section as drivers of inequality as independent factors rather than in their interaction with the benefit system as detailed above. In this way this section provides

commentary on divergence in how these structural issues function in both cases, and it is in this welfare source where a contrast of contexts is seen most prominently.

The first prominent contextual area to consider is the role the gender plays in each of these cohorts, where the effect of 'growing up' (or the age effect) on wage growth and work intensity was particularly divergent for men and women in the UK case; as growing up did not necessarily correspond to higher wages or higher work intensity for women. Among American men and women in the cohort, however, the age effect on individual outcomes was indeed similar. This again suggests that the diverging trajectories in the UK case may be evidence of a cohort effect for the older UK cohort, where a smaller proportion of women in that cohort attached to the labour market at very high intensity than women in the US cohort.

However, even though the male and female wage trajectories trend similarly among men and women in the US cohort, gaps in economic independence outcomes remain. Gender was a source of variation in both wages and work intensity outcomes for both cases, as women in the sample have notably poorer individual labour market outcomes even when controlling for all other transition and background factors. In particular, both cases displayed roughly the same 'wage gap' between women and men once all other factors were considered. The larger gap in work intensity between male and female UK cohort members is likely due to the cohort effects for women but also the cohort effects for men in the UK case, with particularly high work intensity for males (80% or more in very high work intensity from age 30 onwards, Figure 18 in Chapter 4) suggestive of a cohort effect of higher attachment for males entering the labour market in the late 1980s and early 1990s regardless of education level. Recent UK cohorts will have more females in higher work intensity consistent with national trends and will likely also not have as strong labour market attachment for males, given what is known about current youth labour market trends. However, the results from the US cohort signals that younger female cohorts in the UK will still likely lag behind males in wage income even with stronger labour market attachment.

A common thread uncovered in both case results is that transitions in the family formation domain are particularly gendered, as the same type of negative effect occurs in labour market attachment and wage trajectories for women in both cases as household size increases. There is evidence in the US case that female work intensity is less impacted by an

increase in household size, as women reengage more in work after children while a greater proportion of women in the BCS sample stay out of the labour market altogether. Despite this difference in reengagement, however, the common result suggests that the initial 'shock' to labour market outcomes from increasing household sizes seen here is a prime example of the 'child earnings penalty' that affects women who have children at any age (Waldfogel 1998), a feature of female transitions to economic independence which is not an experience for men in either cohort. This suggests that future research might want to consider designs that take gender more explicitly into account.

A specific family formation factor of interest to youth researchers is the experience of having a child in the youth period, which was found to have a negative impact on female labour market outcomes in the US cohort. The large gaps in outcomes for this group with data to the early 30s, however, may be a cohort issue to consider when read in tandem with the UK cohort's longer time horizon. In the UK, the impacts of young parenthood were not present in the same fashion, where no significant effects of young parenting were found on any of the labour market outcomes once other labour market factors are controlled for (even for female young parents). This suggests that the 'shock' of being a young parent may be an effect that erodes with age, which was found in most notably in the UK household income model; where becoming a parent before 21 did not affect household income at 42. However, the large and divergent negative experiences for young American mothers is present in their early 30s, signalling that government assistance may still be an important intervention for this group to improve labour market outcomes.

The racial disparities endemic to the labour market in the United States is the largest difference in context between the cases, and the 'race effect' is indeed present here as in other US research. The wide variation in the economic independence outcomes of White and Black respondents on average, even after controlling for other labour market experiences and parental background factors, is an expected result in the US case but an issue that did not (of course) arise in the UK sample. The results suggest that the independent effect of race is partially an effect of poverty more generally; for Hispanic respondents, controlling for parental background eliminates the differences in work intensity and wages between this group and White sample members. However, both Black and Hispanic respondents do not experience the same type of wage gains even when working at high levels of work intensity. When this result is viewed in tandem with the

stronger reliance on wage income for these groups in the household poverty model, the inequalities that attend Black and Hispanic labour market experiences therefore will drive the disparities in household poverty. Because the UK cohort investigated here does not have a large enough minority ethnic sample to analyse, it was not possible to discuss the experience of Black and Minority Ethnic UK sample members comparatively. However, more recent British cohorts will have sample members from these groups and it will be valuable to consider how these group members are attaching to the labour market and to what extent they are engaging with government assistance. While the racial landscape of the UK is not comparable to the US, the issues of ethnicity must not be forgotten in future UK research on young people.

Conclusions

The comparative work done in each of the three welfare sources indicates that some of the larger characteristics of a liberal welfare state and liberal market economy work similarly in each of the cases here: particularly in that way that the benefit system is a notable factor in the youth transition experiences of target groups, the importance of family background and resources to economic outcomes, and the similar results on wages for women as they experience family change. Regarding government intervention, the insignificance of benefits received at age 21 on mid-life household income in the UK case may be evidence that the experience of benefit receipt in youth does not negatively impact outcomes into mid-life, but may also be a commentary on the different types of assistance available to youth cohorts in the US and the UK. However, the more 'generous' benefit system of the UK in the early 1990s did not impact individual outcomes any more positively than in the US case in the long term compared to those who do not receive benefits. The greater availability of benefits in the UK cohort at 21 along with the availability of the YTS intervention also demonstrated that the welfare state of this cohort considered young people deserving of government assistance; something not reflected in the US case. The UK case was therefore able to make more explicit conclusions about the relative merits of cash assistance and government training programmes for long term outcomes. In both cases, however, there was evidence that indeed the benefit system is notable factor, and indeed can be a positive factor, in the transition experiences of young people who are structurally disadvantaged.

In each case the state as defined by interaction with means-tested benefits is not the largest factor to consider in a young person's welfare mix, but the smaller number of young people who do engage with this system have markedly different experiences in the achievement of economic independence. The breadth of the welfare mix analytical framework allowed the case comparison to bring forward the ways in which contextual issues such as race, trends in co-residence, and the differences in the ability of young people to attach early to the labour market also drive economic independence, even as these issues were not able to be as directly compared in these cases. Where this work can compare the two cases rather directly on some of the larger systemic drivers such as gender, socioeconomic background, and family change, the research finds that the drivers impact outcomes and groups in similar ways. The next section will discuss the conclusions from this empirical work in reference to previous research on the effects of means-tested benefits broadly, and in previous research on the transition project.

6.3 Speaking to Literature

Given the conceptual areas of interest in this investigation, it is valuable to situate the most notable results of the case comparison within the larger fields of theoretical and empirical literature about government assistance as well as youth transitions. This section will speak to some of the previous research on the individual impacts of government assistance in Chapter 2.4, and note where the results of this work confirm and supplement main findings in literature. However, the lack of quantitative long-term empirical research on government assistance and young people as a group of benefit recipients means that the results here are not for the most part directly addressed in previous research; this more exploratory investigation can therefore provide a basis for exploring the issues raised here in future work. Placing the results in both literatures allows a picture to be created of the role government assistance plays in the lives of recipients, and what considerations must be taken into account for future research and policymaking for low-income young people.

Literature on the effects of government assistance

Much of the previous empirical research on the impact of government assistance is found in microeconomic causal impact analysis, generally 'leavers' studies, whereby respondent outcomes during and after a period of benefit receipt are compared using primarily difference-in-difference models (see Currie 2003, Mitchell et al 2017, Moffitt 2003 and

Ziliak 2016 for the US; Gregg et al 2009, Petrongolo 2007 and 2009, and Wright 2012 for the UK). While the research undertaken here does not use this method, the high-level findings are found to be broadly similar to some of the leavers studies of both TANF and JSA; that cash assistance shows consistent negative impacts to wages and later poverty. One of the primary findings from leavers studies is that the receipt of government assistance does not resolve the poverty status of the respondent in the long term, and that in general the potential wage gains from leaving benefits and moving into the labour market does not offset the loss of benefit income, particularly because the entrance to the labour market is in low wage work (Meyer & Wu 2018; Ziliak 2016). The results here are consistent with this previous evidence and suggest that rather than making a permanent exit from poverty, cohort members may be part of a larger subgroup of low income people who move in and out of benefit eligibility status as incomes hover at or near the poverty line.

Evidence on the labour market effects of SNAP in previous research is scant, but there has been some evidence that SNAP is used as a 'protective factor' against family income shocks for those who receive it, and evaluations of SNAP recipients each year indicate that SNAP income is able to lift families above the poverty line and decrease the poverty gap between those at the poverty line and those in deep poverty (Fox et al 2015; Meyer & Wu 2015; Shapiro et al 2017). The mediating effects of any benefit receipt and SNAP receipt in the US case suggest that government assistance may also serve as a protective factor for groups who have worse labour market outcomes on average than their peers – young parents, Black Americans and women in particular. Results on the effect of SNAP for TANF recipients, perhaps the most disadvantaged subpopulation, also show that SNAP receipt is a positive moderating factor for those very low income families and their relationship with economic outcomes. Results from both this investigation and previous work therefore suggest that SNAP in particular is a form of assistance that provides disadvantaged populations with resources needed to improve their labour market experience, and suggests also that in-kind assistance with less harsh work requirements serves as an important resource for those with notable challenges in labour market attachment.

The nature of benefit receipt in consecutive years and the transitions on and off benefits for both samples illustrate the same type of welfare dynamics identified by Bane and Ellwood (1994) and extended in other work (Hills 2014, Jenkins 2011, Propper 2002). For the NLSY sample around 20% of those who received benefits in one year do not receive in

the next, and around 4-8% of those who did not receive benefits in one year do so at the next. Because the time between survey periods is longer for the BCS sample the percentage of movers off and on benefits is slightly higher, but both cases indicate a notable change in the population who receive assistance from panel to panel. Importantly, there are very few sample members in each cohort who receive benefits consistently for many years in a row; contradicting the notion that the vast majority of those who receive benefits in the youth period will spend consecutive years receiving assistance. However, read alongside the main model results on the benefit receipt population it is indeed unlikely that a move off benefits for a year resolves poverty status. Importantly when reading the results of this investigation, the less positive long term economic independence outcomes are not particularly surprising for cohort members who have even one stint receiving benefits—by virtue of being poor enough to be eligible for benefits, this group can be expected to have more disadvantaged long term outcomes.

The mediating effects of government assistance for American young parents' work intensity in this study are particularly encouraging, where the negative impact of becoming a young parent on wages and work intensity is reduced for female young parents when benefit receipt is controlled for. This suggests benefit receipt is a notable factor to consider in the youth transition experiences of young parents, and can be associated with positive labour market attachment for this group. This was also seen in the results on benefit receipt and young parenthood interaction terms, which indicated that young parents who receive benefits have more positive labour market attachment than young parents who do not access this assistance. This result is related to both qualitative and quantitative work on low income parents in the US and the UK. Qualitative work by Edin & Shaefer (2016) reported that SNAP in particular in the US serves for some families as the only consistent source of income each month, a type of stabilising assistance that can make it possible to engage in the labour market more adequately. Previous quantitative work on the lone parent population in the UK also showed that some types of benefits in particular can have a positive impact on work intensity (Gregg et al 2009, Blundell et al 2008).

While young parents and lone parents are of course not equivalent populations, the previous research on lone parents that showed 'unambiguously positive' results on labour market attachment when tax credits were accessed could potentially indicate that this type of in-work assistance is likely also positive for the young parent population as well (Gregg et

al 2009). A limitation of this work is that it has not been able to fully delineate the impact of tax credits for respondents in the UK case, nor is there evidence on EITC for the US sample in all survey waves. Therefore, it is not entirely possible to determine the difference in impacts for a target group like young parents or recipients more broadly of both specific in-work benefits and out-of-work benefits. But, the encouraging results from the NLSY for the population who receive 'out of work' benefits like SNAP and TANF may signal that in-work benefits could be even more positive for recipient outcomes.

Theoretical work on gender and the welfare state by Orloff (1993) and Sainsbury (1996) in response to Esping-Andersen's welfare regimes was investigated in the empirical work here by explicitly considering the different ways that women and men interact with the welfare state. This work showed that within all economic outcomes investigated here benefit receipt has a larger influence on the experience of females compared to males, with females in the US case in particular having larger negative impacts from benefit receipt than males in the sample. This concurs with Fraser and Gordon's work on the gendered welfare state, whereby a means-tested benefit system with mothers as the 'target' group would therefore find female outcomes more notably shaped by the welfare state. What must be considered in this investigation is the potential limitation of this work because the outcomes of interest were gender-neutral, and did not taken into account some of the issues of care that work alongside a benefit system. This is discussed in further detail in Chapter 7.

The most directly comparable results from this investigation to previous empirical work are those on the Youth Training Scheme. The negative long term wage and income impacts for YTS participants found in this BCS sample and the neutral results on labour market participation are consistent with results from Dolton and colleague's 2001 work, where YTS participants were not found to have systematically worse unemployment outcomes than non-participants but were found to have poorer wages. Dolton's later work using the full BCS sample in difference-in-differences methods at the year 2000 (Dolton et al 2004) showed particularly large negative wage effects for males, and is connected to the more negative household income outcomes found for males who participated in YTS at 42 in this study. A key addition to YTS evidence from this work identified differential impacts of the programme for particular subgroups of YTS participants, where YTS participants who are not poor enough to be in receipt of benefits during the survey period were found to have

more positive work intensity outcomes than cohort members who do not receive benefits and who did not participate in YTS. This suggests that again the driver of poorer outcomes for YTS participants is poverty more generally, and poorer young people's participation in training programmes like YTS may not be able to improve their outcomes overall.

Literature on the Transition Project

The results of this research also contributes to existing evidence on inequalities in youth transitions more broadly, notably utilising the transition project domains (Settersten et al 2005) as an explicit consideration in the research design. Education domain experiences for the two cases reiterate the value of attaching to higher education to long term outcomes (Bozick & DeLuca 2011; Howieson & Ianelli 2008; Shapiro et al 2017; Walker & Zhu 2011), and indicate that women in particular have larger wage and labour market gains with higher levels of education. More notable impacts of higher education were also found for Black US cohort members, and indeed confirm that both of these groups of respondents have 'more to lose' if they are unable to attain a higher education qualification (Wickrama et al 2012). These results also affirm the value that a liberal market economy places on general rather than specific higher education qualifications: the NLSY cohort in particular shows relatively strong results for respondents who were able to attend at the very least a two-year college compared to those with no qualifications or with a high school diploma. However, the attrition rate for those attending community colleges is relatively high (Karpilow et al 2013) and it is therefore important to design interventions to assist young people to complete community college, which will have a more positive effect on the lower-income population these institutions serve. It is important to recognise that higher levels of education for women do not fully close the wage gap between men and women (Goldin 2014), and that in particular higher educated Black women – who have very high labour market attachment – still lag behind other groups in wage outcomes (DuMontheir et al 2017).

An important contextual issue to consider in the UK case is that these cohort members were perhaps not able to attend the more expanded post-1992 higher education sector to the same degree as younger cohorts immediately after secondary school, and the BCS sample may therefore be the last cohort to access the 'older' structure of higher education in the UK. The results for the BCS cohort members who did attend the more selective higher education sector show therefore much larger disparities in wages and household

income than those with lower qualifications. The higher and further education system in the United Kingdom has expanded to a type of tiered model with shorter college programmes generally accessed by lower income students (Boliver 2011; Halsey 2000), and it is therefore valuable to consider how best to assist young people through these programmes to avoid the attrition problems experienced by community college students in the United States. One of the more perennial problems in the education and training systems in a liberal welfare state is how to best improve vocational training programmes. The results from the Youth Training Scheme for the UK cohort confirm that the programme did not positively impact the wage incomes of participants in the long term, and suggest that a programme like YTS is not the best way to fill the gaps in vocational education and skills provision.

In the employment domain, the results from this research are consistent with previous research on inequalities for women in both cases and Black Americans in the US. The results for women in the individual models affirm the results from other research on women's labour market transitions, which show that women are more affected by family change than males overall; the effects of which are one of the most important factors in the wage gap between men and women (Aassve et al 2007; Blau & Khan 2017; Christopher et al 2002, Katz & Goldin 2008). Although there are cohort differences in work intensity due to period effects, both female samples experience more dynamic labour market transitions related to changes in family structure. This can lead to less positive outcomes for females in both wages and work intensity, with a wage gap persisting for females even when work intensity is high (Goldin 2014; Goldin & Katz 2008). These results reiterate the value of supports for females in the labour market who want to get back to work after they have children, particularly in the area of remuneration, to make going back to work a better economic tradeoff than staying at home if so desired.

The disparity in labour market attachment and returns for Black respondents in previous research is confirmed here, with worse labour market attachment outcomes for Black men – a group found to be particularly disadvantaged in the labour market as young people and as working-age adults (Fryer et al 2013; Hardaway & McLoyd 2009; Pager et al 2009; Sum et al 2013; Wilson 1987 and 1996). Even when attached to the labour market at a high work intensity, Black and Hispanic sample members' wages are much lower: suggesting that these groups are far more likely to be in lower waged work and part time work than White

respondents through their 20s. One of the challenges for Black young people identified in previous research and affirmed in this work was that divergence in labour market outcomes between Black and White respondents occurs early (Entwistle 2000), and that the advantages of part time work while still in secondary school do not seem to be an experience shared by Black and Hispanic cohort members. Descriptive figures of the US case indicate that there is much higher labour market attachment at an earlier age for White respondents (age 16-19) (Figures 56) and it takes longer in the youth period for the highest percentage of Black cohort members to be in very high work intensity categories (Figure 57). Even then, a smaller proportion of Black respondents are in this work intensity group by the end of the youth period; only ever around half of Black respondents are in very high work intensity compared to 70% of White respondents. Both the model results and the descriptive work on the poverty outcomes of Black and Hispanic respondents also illustrated the systematic disadvantage of minority groups compared to White respondents, and in particular showed that there was very little change in the proportion of each racial group in each poverty ratio category after age 20 (Figures 63-65), suggesting that this gap in poverty status is driven by both the labour market but also likely by factors that are unmeasured in this investigation (such as the 'wealth gap' in Oliver and Shapiro, 1995). The less successful employment domain experiences of Black and Hispanic respondents in this investigation are indicative of the intersectional disadvantages identified in previous research that limit the ability of these groups to attach to the labour market in higher waged work like their White peers (Chetty et al 2018; Crenshaw 1991; Pager et al 2009; Massey & Denton 1993; Wilson 1996).

Parental background is perhaps the most notable factor common in both cases that drives economic independence outcomes in the employment domain, and necessarily foregrounds nearly all research on youth transitions (DiPrete & Eirich 2006; Furlong & Cartmel 1997; Schoon 2014; Schoon & Lyons-Amos 2016). One of the ways that parental background is considered specifically in the youth transitions literature is by viewing the family of origin as both a 'safety net' and a 'scaffold' (Swartz et al 2011). The case results indicated that the impact of parental background on economic independence increases with age, and suggests that the 'scaffolding' ability of parents to provide resources (both financial and otherwise) lasts well into adulthood. The results here are also consistent with previous work done by Amato and colleagues (2008) and Ermisch (1999) that detail a 'safety net' function, where they conclude that young people who are able to stay in their

parental home through co-residence or supported through other financial transfers may have more positive economic outcomes than other young people, as they may be able to avoid the precarity and insecurity of becoming independent at a young age. The work here also confirms that the family is indeed becoming (or has become) the primary source of welfare outside of the labour market and therefore young people who are able to access resources from their family of origin have better poverty outcomes in adulthood. And while young people across the income distribution are staying in their parental homes longer (Dey & Pierret 2014), the positive impact of staying at home is an experience found to be more positive to White respondents in this US cohort on average; suggesting again that both the safety net and the scaffold is a space that is shaped by race in the US sample. The family safety net and scaffold is an assumption built into the structure of the benefit system for young people, but there is little long-run evidence on the extent to which different subgroups of young people are able to benefit from this parental support. Evidence here contributes to the emerging area of research on the long term impacts of residential support, but notably there is no data available on this phenomenon for the UK case. However, regardless of the lack of long run evidence for the UK case, the work in previous research and in the US case suggests that supports are needed for young people who cannot or do not stay connected to their family after making an initial move out, as these young people fare worse economically into adulthood.

The final results to consider in reference to youth transitions literature is the divergent experiences of young parents in each of the cohorts, the most prominent family formation transition measured in this investigation. The negative impact of young parenthood in the US sample is consistent with US research on this group, even though much of that research focuses only on respondents who give birth as teens (Aguilar et al 2013; Basch 2011). The work here affirms that the experience of young parenthood is partially a function of family background factors (which can be controlled for in quantitative models), but also the experience itself profoundly shapes the experience of becoming an adult. For the women in the US case, this experience showed particularly negative impacts on labour market outcomes. The lack of significance of young parenting in the outcomes of the UK sample also shows evidence that viewing young parenthood as a 'risk' in itself may not be entirely appropriate for this cohort (consistent with Duncan's review in 2007). Rather, the UK case indicated that young parenting was a function of background while also suggesting that the effects of this youth trigger event may diminish with age. The impact of government

assistance was found to play a larger role in the youth transition experiences of female young parents, particularly in the US case, and this subpopulation may indeed be a group where benefits can have a positive impact on economic independence outcomes. Therefore, this group should continue to be an area of focus for research on welfare state interventions. The ways in which the key findings of this investigation influence future research agendas are detailed in full in Chapter 7.

Key research considerations in investigating economic independence

Bringing these two literatures together along with the results from these cases suggests that there can be and should be a more holistic approach to investigating transitions to economic independence in future research, especially in considering the state's role in shaping these outcomes. The results from this investigation suggest four areas of focus that can be used to usefully bridge these two fields: the nature of structural disadvantage, the family welfare source, youth transition trigger events, and finally, the role of government assistance in the lives of young people.

A thread throughout this work is the value of understanding the nature of structural disadvantage among the cohort of young people in any welfare state. In the cases here, the most prominent systemic areas of divergence that influence outcomes are found along the lines of gender, race, and socioeconomic status. Disadvantage in these areas is foundational in shaping the 'success' of a youth transition and also subsequently influences interactions with a means-tested benefit system in the US and the UK. Any research must therefore first consider how transition experiences diverge by these three (or more) areas, and how any changes to the system of government assistance (be it in cash assistance or in government-sponsored training) will have an outsized impact on historically disadvantaged populations of young people.

What must be considered in tandem with structural *disadvantage*, particularly socioeconomic disadvantage, is the family of origin as a site which structures *advantage* (DiPrete & Eirich 2006; Fingerman 2015; Schoeni & Ross 2005). This research engaged explicitly with how a young person's family of origin is a resource that provides both a scaffold and a safety net during this transition period. The 'scaffold' effect was measured through parental background measures, where this research continued to confirm that young people from more affluent families will be more successful at becoming economically independent, and that the influence of family background becomes more

prominent with age. The results on the residential independence measures in the US case suggest that not only is socioeconomic status a factor to be controlled for in a model, but that the family of origin is a welfare source which should be explicitly measured and accounted for in models of youth transitions whenever possible.

The trajectory of a youth transition is also shaped by particular 'trigger' events in the youth period (DiPrete & McManus 2004) that influence the experience of economic independence; those affected by these events should be considered as potential subpopulations that may need to engage with government assistance more often. The evidence here confirms that young parenting is one of the more important trigger events that shape a youth transition and provides an example of how the three issues of structural disadvantage, family of origin factors, and youth transition experiences coalesce for a particular subgroup. The intersectional experiences of these young people, combined with a benefit system designed primarily to serve (young) mothers, resulted in particularly notable mediating effects of the benefit system for this group in the US case, as well as differences in outcomes between young parents who do and do not engage with benefits. Because young parents are an important 'deserving' group in both cases, evidence on this group is more robust and should continue to be produced. However, researchers also need to consider what other youth period events might combine with family of origin factors and structural disadvantages to create subgroups of young people who may be in need of government assistance, and if/how government assistance might be useful in mediating negative outcomes; for those leaving care, those who are unable to or do not enter any further education, or those who have additional support needs.

Once these issues in a young person's path to economic independence are considered is it then useful to investigate how a means-tested benefit system in a liberal welfare state is designed to influence outcomes. The challenge of this research is in unpicking the effects of government assistance and the effects of poverty, the two of which are inextricably linked. Investigators must therefore foreground their discussions with an understanding that the liberal welfare state primarily only serves those for whom the other sources of welfare are insufficient to meet their needs; a very low income population. Therefore, it is more valuable to investigate how government assistance mediates the labour market experiences of young people who are structurally disadvantaged or to compare low income groups who do and do not receive assistance rather than compare citizens who receive

benefits to those who never do. When government assistance is analysed in this way for target groups the results indicate that government assistance should be considered a notable and potentially positive factor in the transition to independence and may not be a harmful experience in the long term if received only in the youth period. However, the results also indicate that government assistance in a liberal welfare state cannot appropriately be considered as a 'hand up', as poverty and disadvantage for these groups remain by virtue of the principles of residualism the characterise a liberal welfare state.

Together these four considerations can be used to organise the way that researchers can approach the topic of economic independence for young people. The approach notably allows for youth researchers to think more explicitly about the practical functioning of the welfare state for young people who access it, and allows for welfare state researchers to more pointedly consider experiences in the youth period and the resources a young person may or may not have to make a transition successfully. This holistic approach bridges the two fields of study together explicitly, enabling the concerns of both fields to be considered in the analysis and development of policies for young people whose transitions may be challenging. These four areas can also be used to organise the policy implications of this research, both broadly and in some specific policy intervention areas.

6.4 Policy Implications

Before any specific policy implications can be discussed, the work must return to a tension in the literature regarding what role the government should play in the achievement of independence for young people. As noted in Chapter 1, while a liberal welfare state promotes independence from the welfare state as a primary goal of a youth transition (whether it is explicitly stated or not), the tension arises when a lack of sufficient labour market returns and a smaller welfare state combine to push young people back into the family home, causing a new dependence on the family of origin. For many young people, then, the principle of independence promoted by the welfare state is simply unattainable. The concept of economic independence used here seeks to bridge this tension, as the investigations of individual wages and work intensity identified factors prominent in a young person's relationship with the labour market, while the poverty/household income measures identified factors that influenced whether the labour market experiences combined with other drivers to actually improve poverty in the long term. As the results of this investigation confirm, government assistance provided through a residualist welfare

state likely will not positively impact a recipient's economic trajectory to resolve poverty or low incomes (if above the poverty line) in the long term, as an episode of poverty low enough to be eligible for benefits will still indeed impact labour market and poverty outcomes well into mid-life. This would suggest then that a welfare state functioning with means-tests at its core will not be able aid the achievement of economic independence as it is defined here, particularly because the broader goals of economic independence is at odds with the idea of government intervention only as a last resort for a very few number of citizens. However, the results from this investigation suggest that there are still ways a liberal welfare state can intervene in a youth transition to positively influence outcomes for those who receive government assistance. This last section details the broader policy implications of this work that align with the four areas that also influence future research directions in the previous section, and highlights key issues that will be addressed in specific policy recommendations for each country context in Chapter 7.4.

Tackling Structural Disadvantage

Much of the work of policymakers is focused on the ways to limit the gaps in outcomes due to income inequality. However, this research affirmed that structural inequalities by gender and race are key issues that shape outcomes in all three areas of a person's welfare mix as well. By viewing structural disadvantage in multiple areas of a biography concurrently, this investigation was able to illuminate how intersectional issues combine to create even more challenging youth transitions for certain groups of young people[57]. Policymakers should therefore widen an inequality agenda to include other groups who may be disadvantaged in the youth period, an issue returned to in Chapter 7.

The achievement of higher educational qualifications was found to be particularly prominent in changing the outcomes for cohort members who are often more disadvantaged in the labour market. The importance of education to higher wages and higher work intensity is not a new insight, but it does continue to affirm that traditional academic qualifications will likely be the best way to improve outcomes in a liberal market economy. It is important to consider that in this UK cohort the economic opportunities for men with low or no academic qualifications were still relatively abundant, and therefore

[57] It is also notable to consider that inequality based on disability status was not considered in this research specifically, but it is indeed a prominent but often overlooked factor that structures experiences in a youth transition.

there was far less of a difference in labour market success among men with lower and higher qualifications. This characteristic of the male experience in Britain however is likely no longer present, especially given what is known about a distinct subgroup of young men who are disconnected from work and education. Therefore, it is extremely valuable to continue making policies to improve access to educational opportunities for those who want to go to further or higher education, and to also consider how to support low income young people in completing post-secondary qualifications. However, higher levels of educational achievement are but one avenue of intervention in the youth period for improving outcomes. The assumption of higher levels of education as a 'silver bullet' for reducing inequality is not only foolhardy but it is not borne out in the evidence. The work here found that controlling for education levels did not reduce the gaps in outcomes between men and women (in both cases) and between White and non-White cohort members (in the US case), and previous work confirms that even with higher levels of education and labour market attachment (e.g. Black women) gaps in income and poverty remain. It is important then to broaden policy thinking for young people to consider other ways to close gaps in outcomes beyond human capital formation by taking into account the holistic needs of disadvantaged young people if policies are considered for revision and introduction: including in the areas of housing, health, neighbourhood assets, *and* labour market attachment, including remuneration in the labour market high enough to create a successful independent life.

Considering the Family as a Welfare Source

A valuable insight from bringing these two literatures together is the importance of actively considering the family as a source of welfare when investigating or making policies for young people. The tacit assumption that young people will be able to use the family as a source of welfare to a sufficient degree during their youth period is implied in the age limits on cash assistance programmes in both countries and the UK minimum wage for young people; a rather passive recognition of the family as a welfare source. This assumption is not wholly incorrect, as previous evidence suggests that even low-income young people receive transfers from their family during their youth transition. However, the amount of family assistance will necessarily vary, and the availability of family resources is another way that inequalities are manifested in this period. It is also unrealistic to assume that all young people will be able to or will want to rely on their family of origin during their youth

period (particularly as co-residents). It is therefore important to consider how to support young people who may want to move out permanently but who are unable to do so successfully and to also consider that there are parents who are unable to provide the level of support assumed by the welfare state; the needs of both of these groups should be taken into account when debating and designing policy interventions for young people, specifically social security policy.

The availability of co-residence in the youth period is an important way that families support young people in this period and a distinct way to measure the family source of welfare in future investigations. The increasing number of young people staying with their families through the youth period engages directly with the tension of how much a liberal welfare state does (or should) work to de-familialize young people during this period. A liberal welfare state in its current form places a high reliance on the family of origin, but does not wholly account for the extended period of support that parents provide to their children. Families may therefore have their incomes further strained by continuing to support children into their 20s or will simply be unable to support their children at all. In the UK today, the welfare state provides benefits to the family of origin for dependent children to 16 if the child is not in education and to 20 if they are in education, and US families only receive a dependent tax exemption to 19 for non-HE bound children and 24 for HE-bound children, and Child Tax Credit to age 17. The eligibility criteria for these benefits does not adequately address the current type of relationships that many young people have with their family of origin while attempting to achieve independence. Many young people live with their parents beyond these age limits and receive assistance from them (particularly those who are not in higher education), but these parents receive no further assistance in maintaining their welfare; assistance that may be particularly vital for low-income families. Should a welfare state then raise the age of qualifying children for dependent benefits to 24 or 22 regardless of higher education status, recognising the status of the family of origin now as a primary welfare source?

If the welfare state seeks rather to incentivise young people to become independent of the family of origin, more assistance should therefore be put in place for young people both with and without children to access both cash assistance and tax credits under age 25. Current welfare state arrangements disadvantage young people who wish to leave the family home but due to insufficient labour market returns and no assistance from the

welfare state are unable to do so. Explicitly considering how and to what degree a welfare state incentivises independence from the family of origin (whether through stated policies or through the absence of policies) engages with larger questions of which actor in a youth transition the state wishes to support. The value of a study like this one is that it brings these issues more clearly to the forefront of the policy conversation, and asks how the welfare state should address the negative outcomes that both parents and young people are experiencing in the current welfare state configuration in both countries.

Considering Youth Period Events

This work also affirmed the value of taking into account particular youth-specific events in the areas of family formation when designing policies for young people. This is a missing link in current thinking about youth transition policy, as the primary focus is usually on employment and education outcomes rather than what happens in the family formation domain. As mentioned above, the 'shock' to one's economic independence trajectory from becoming a parent at a young age is perhaps one that disappears with age, but it does indeed still have particularly notable impacts for young people, especially young women. Government assistance for young parents therefore continues to be both necessary, and from the results here, a potentially very notable way that a young parent's economic trajectory can be positively influenced and shaped. The results for young parents' interaction with government assistance in particular goes against the notion that this group is destined to be 'welfare dependent' into adulthood: rather, the evidence here suggests that government assistance is an important and positive factor for this group's labour market attachment in particular, especially when viewed in comparison to young parents who do not access assistance. The encouraging results for this group of young people deemed to be a 'target' group for assistance suggests that it is also valuable to consider other youth period events that may be just as scarring for a young person's economic outcomes but are not addressed by policy. Having to move out of the family home in the late teens and early 20s, attending university/further education with little income, establishing a household (with perhaps little to no family support), attempting to find a first job that pays enough to live independently: all youth period transitions that are occurring simultaneously that must be managed by the young person on their own and currently are not directly addressed by the state with the same prominence as young parents. If policy is to work toward improving experiences for all young people, it may be time to reconsider

and widen the groups deemed deserving of assistance, given what researchers have already identified as particularly 'risky' transition experiences.

The Role of Government Assistance

Finally, this work has implications for policymakers working explicitly within welfare systems. The results from this study suggests reframing the approach to state interventions in three areas of welfare state functioning – out of work benefits, in-work benefits, and in the consideration of cash assistance versus training programmes. By reframing the conversations in these areas, the work also engages with larger questions on the role of the state in a youth transition, interrogating long-held beliefs about the best way to assist young people and looking to ways that approaches should change to incentivise independence and improve long term outcomes.

A reframing of state interventions for young people must first engage with a key tenet of a liberal welfare state; defining who is deserving of assistance. Current policy in both countries investigated here (and in most others, see Chevalier 2016) defines groups of young people as deserving of assistance slightly differently based on parenting status. In general, young parents are deserving of assistance and low income young people without children are generally less so. Indeed, for the latter group this lack of deservingness is implied by their ineligibility or more stringent eligibility for any cash assistance. Especially in United States welfare policy, the silence regarding young people as a vulnerable group is particularly telling. Simply put, young people without children are not deemed a priority group for intervention. What if, recognising the inherent risks associated with a youth transition, particularly for those whom policymakers know are structurally disadvantaged, all low-income young people under 24 were considered a deserving group for assistance? This reframing not only would change the way that young people engage with the state in this period, but would also change the way that young people engage with both their family and the labour market welfare sources.

A key area where this reframing would impact government intervention policy is in the administration and eligibility for in-work benefits. Given the prevailing policy rhetoric in both countries that 'the best route out of poverty is work', the lack of eligibility for young workers without children for working tax credits in both countries is a particularly cruel oversight. Given the proven anti-poverty effects of these programmes and the work incentive effects of these benefits, changing eligibility for in-work benefits is also politically

palatable. Improving the labour market returns of young people will also more notably improve the experiences of young people from low-income backgrounds and those from minority communities. Improving returns from the labour market through wider tax credit eligibility will not only affirm the values of individualism that a liberal welfare state espouses, but can help to limit the reliance on family resources in this period and can help to close some of the gaps in labour market returns between young people from disadvantaged families and their more advantaged peers that characterise both cases.

Although focusing on improving in-work benefit eligibility is a more politically palatable way to change state interventions for young people, it is important to affirm the value of out of work benefits as a key support structure for this population. It is in this aspect of government intervention where this work makes a notable contribution, providing nuanced evidence to how government intervention for particular subpopulations impact long term outcomes within the context of a youth transition. The results of this investigation for target groups of recipients of out of work benefits like SNAP and TANF make the case that these benefits play a role in the support systems of young parents and those with lower labour market success on average, who are more likely in very high poverty. The evidence on SNAP in particular adds to the wealth of evidence that asserts that receipt can be a positive factor in labour market attachment for this group; a result that may be due to SNAP not imposing lifetime limits or stringent work requirements for parents. The youth period in particular is one with necessarily uneven or challenging labour market experiences – characterised by precarity, starts and stops, and seasonal work if any at all – and therefore the encouraging results for current target groups suggests that out of work supports should be kept in place at the very least, or expanded to serve more young people who would not be eligible for in-work support and would likely not be eligible for standard social insurance benefits due to their lack of contributions.

Indeed, the youth population in particular has notable life course challenges and experiences that may be most amenable to short-term, safety net interventions that a liberal welfare state is more willing to support. The emerging results from the UK case also suggest that benefits received when young people are making multiple transitions before reaching their family of destination may not be as scarring to long term outcomes as often believed. This period is fraught with challenges for young people but is also ripe for intervention, before transition pathways are set and families of destination are formed.

This period of semi-dependence, at the intersection of structural disadvantage, youth period trigger events, and family resources, is an intervention nexus where assistance can be utilised perhaps only for a short time, but effectively, for young people in need. The results here, paired with the encouraging results for target populations, goes against the prevailing idea that cash assistance is an intervention that destines young people for a 'life on the dole'; indeed, none of the UK sample members who received benefits in youth received them in all the other survey periods and less than 2% of US sample members received benefits in the seven consecutive years of the youth period.

The final intervention area that can be reframed following this investigation is the type of government intervention deemed worthiest of implementation for low income young people. One of the current areas of consensus among UK policymakers is that assistance for young people is best delivered through labour market attachment programmes; through a large government programme like the Youth Training Scheme or its descendants delivered in various public/private arrangements. The UK case provided a way to compare the impacts of means-tested cash or in-kind assistance to direct labour market intervention, here in the Youth Training Scheme. In this case, the long term wage outcomes and work intensity outcomes for YTS participants are worse than cohort members who do not participate, and low income YTS participants were not found to have significantly better outcomes than low income cohort members who do not participate in YTS. So, while YTS may improve short term labour market attachment in youth, there was found to be no long term positive impact of the programme for the group of young people in this sample who chose to take up the YTS offer. Indeed, this investigation found the only subgroup of YTS participants with positive outcomes were sample members without any further interaction with means-tested benefits – sample members who are not particularly disadvantaged. Overall, this intervention and perhaps also descendant programmes with the same characteristics should be seen perhaps only as a stopgap rather than a path to permanent labour market attachment. The more encouraging results for the cash assistance and in-kind programmes suggest that it may be best to consider using funding currently being spent on intensive or prescribed job training programmes towards making short term cash assistance more available for young people.

A prescribed labour market programme or other variants of workfare are also seemingly incongruous with how a liberal market economy functions. With little opportunity to gain

transferable qualifications necessary in a flexible labour market and with lower wages than traditional workers, participation in programmes of this type seem to stifle independence from either the welfare state or the family or origin. Importantly, the evidence here goes against the prevailing wisdom that the only thing that young people need is initial labour market attachment opportunities; for young people with multiple disadvantages, it is simply not enough, and for others, the attachment might have been achieved on their own. With the key issues regarding government assistance outlined here, Chapter 7.4 puts forth Policy Recommendations for organising welfare state systems to promote young people's economic independence.

Chapter 7: Conclusion

The final chapter brings together reflections on this investigation in three areas: a reflection on the approach taken in this investigation and its limitations; the contributions this investigation has made methodologically and in each of the fields of literature it engaged with, including what further research agendas should be pursued as a result of this work; and finally, specific policy recommendations within and related to social security policy that could improve the achievement of economic independence for low-income young people with and without children.

7.1 The Approach and its Limitations

Reflecting on this investigation's approach necessarily brings one back to the issue of causality and the claims which can be made from the regression models. As detailed first in Chapter 3 (pp. 105-107), here the inferential approach to understand the impact of benefit receipt on economic independence is associational rather than causal primarily because of the relatively new approach to bridging these two fields together. This investigation is one of the first to utilise a youth transitions lens to questions of welfare state functioning using quantitative data. Therefore, understanding the relationships between youth transition experiences and outcomes and welfare state interventions is the necessary first stage of research in this area, and only after relationships are identified in detail can hypotheses be investigated using causal inference approaches. Bringing these two fields of work together necessarily led to a more flexible and exploratory approach, as the work explicitly considered the theoretical approaches of both youth sociologists and welfare state researchers in the research design. In order to adequately analyse relevant factors in all three domains of a young person's transition project (i.e. education, employment and family formation) alongside the impact of government assistance rather than just controlling for these factors, an empirical model had to analyse internal characteristics and youth transition experiences that do not fit into a causal impact model (see Rubin's Model of Causal Inference, Holland 1986).

Therefore, the work necessarily extends beyond the more narrowly-defined and hypothesis-driven models of economists that work within causal inference. A positive aspect of the associational approach for this piece of work was the ability for unexpected results and relationships to emerge during the modelling process that would have likely

been controlled for in a causal impact analyses. An example of this benefit was seen most notably in the emerging results on the impact of the family welfare source, measured in the US sample by the age at initial move out covariate and also by the covariate on moving back in with one's parents. The nuanced results for this covariate was included particularly because the youth transition project framework was used to structure the modelling logic; a framework that could allow residential independence to be considered as an independent measure of family support rather than a dependent measure of economic independence more common in youth transitions research. Because it was not the primary independent variable of interest, the nuanced results on the family welfare source and its prominence in the outcomes would not be able to be addressed in causal models and would be instead controlled for, and these notable emerging findings would be missed. In short, an associational approach was able to provide more breadth to the investigation and allowed the space for new relationships and phenomena to be investigated as these two fields were brought together in a new way.

However, in exchange for the ability of more exploratory issues to emerge in an associational model, this investigation could not make causal claims or produce point estimates about how benefit receipt affects labour market attachment or poverty outcomes as can be produced by economists. This is a limitation of this investigation, and is due in part to the key issue of treatment versus composition effects that cannot be delineated in a model of this type. Although this investigation does not operate within the framework of economic models these two concepts are relevant to detail here, and are useful in understanding what can and cannot be inferred about the effect of benefit receipt in these models. In an investigation like this one the treatment effect of interest would be the true effect of receiving benefits on economic independence outcomes, where a composition effect is defined as 'the part of the observed between-group difference in the distribution of an economic outcome that can be explained by differences in the distribution of covariates' (Rothe 2015). In this case the composition effect, or between-group difference in the main benefit receipt effect results, is partially due to the eligibility criteria for means-tested benefits; those who are 'treated' by benefit receipt are already different to the untreated group due to poverty status. The difference in economic outcomes between those who receive benefits and those who do not receive benefits is therefore likely due to variation in this characteristic and potentially other demographic characteristics among sample members. In this model then it is not possible to disentangle

the true 'treatment' effect of benefit receipt from the 'composition' effects that characterise the benefit receipt population. An investigation of that type would have to be undertaken using causal inference models, a valuable extension of this work. This issue in particular is one of the key reasons why it is not particularly valuable to consider the main effect sizes in each of the models investigated here, and rather the more nuanced interaction effects and the mediating and moderating effects are more notable in this associational analysis.

The second limitation of this investigation's approach emerged in the course of model iterations; the assumption of a 'gender-neutral actor' in the achievement of economic independence via labour market participation and returns (Orloff 2004). This assumption does not take into account the way that women's experiences in the labour market are shaped by caring responsibilities and the provision of services, either privately or publicly, to support women's employment. As noted in Chapter 1, the development of each of the liberal welfare states investigated here during each of the time periods of interest have slightly different traditions of providing support for women to be 'defamilialized' from the male-breadwinner model, which both states functioned under in the 1960s and 1970s (Esping-Andersen 1999; Fraser, 1994). In the case of the UK, the male breadwinner model still remained a relatively consistent organising principle during the period of the BCS cohort, with higher levels of support from the state to remain in the home with caring responsibilities for low income mothers. A comparable level of state support to mothers and parents was not a feature of the US welfare state of the NLSY cohort after welfare reform, with the provision of both 'carrot' and 'stick' measures in the US put in place to ensure high levels of labour market participation for all women (the 'universal breadwinner model') (Fraser 1994; Orloff 2004). Regardless of whether the state provided more supports for women in the BCS cohort to stay in the home, or whether full employment was encouraged and care instead 'marketized' as in the US cohort (Orloff 2004), a key factor in the experience of young women's economic independence trajectories is the role of caring responsibilities (Lewis 2006).

As gender was explored explicitly as a covariate of independent interest in each of the models it became clear, particularly in the UK case results, that the transition experiences and subsequent interactions with the welfare state are systematically different for males and females. This was seen notably in the results in the family formation domain; in the

effect of household size, young parenting, and also in some of the interaction terms between women and benefit receipt in these models. The models showed that the achievement of outcomes, some of the key youth transition experiences of interest, and the interaction with benefits are a particularly gendered space. This suggests that the achievement of economic independence for females is therefore a categorically different experience to that of males, and further that there is a danger in assuming the 'inevitability of…[the] "adult worker model family"' as it does not reflect the reality of the ways that social life is organised for women (Lewis 2006, p. 106). Indeed, based on the strong variation in outcomes by gender in these models –even in the US case where women's labour market participation is closer to that of males in a cohort sample – it is likely that the gendered aspect of all of these systems will emerge particularly during the childbearing years. It may therefore be a limitation of this work that men and women are modelled together.

Considering women and men in separate models would allow for the impacts of youth transition factors and government assistance to be analysed for groups with the same type of gendered experiences, avoiding the assumption that both men and women will interact with the labour market in a similar way and have subsequently similar economic independence outcomes. This would then be able to further illuminate the impacts of benefit receipt, for example, as the gendered functioning of the welfare state would be even further controlled for with a single-gender model. The challenge of using models where women and men are considered separately, however, occurs when we look at the theoretical underpinnings of how youth transitions are conceptualised in both cases. What is missing in theories of youth transitions and government policies, which create the normative expectations of a youth transition, is the discussion of gender. The predominant 'climate of normality' of youth transitions operating in liberal welfare states is remarkably gender neutral, with no detail in policy documents or in many theories of youth transitions as to how the principle of 'early economic independence' and a focus on 'employability' should or does differ for males and females (Walther 2006). Although the transition project framework does indeed consider explicitly how family formation affects youth transitions separately for men and women (Settersten et al 2005), there is very little consideration about how youth transition outcomes for those in the US and the UK could or should be considered separately by gender.

One way to more appropriately consider youth transition outcomes for men and women is by using less gendered outcomes of interest. This could be measured by conceptualising economic independence as the establishment of an independent household using outcome measures such as residential independence or homeownership, which are less gendered than any labour market outcome measures. Homeownership in both the US and the UK is encouraged through deliberate policy choices; for example, through the reduction in social housing stock (notably seen in the UK) and the introduction of tax incentives for homeowners (in the US via the mortgage interest deduction). It is also the most notable way for one to build wealth (Oliver and Shapiro 1995). Therefore, the choice of this outcome indicator is valuable from a policy perspective and solves the problem of the more gendered labour market outcomes used here.

The use of a homeownership outcome measure of economic independence must however be considered in reference to how it is a 'fixed state' measure as opposed to a measure of a youth transition on a continuum (such as work intensity or wages). This formulation is reminiscent of the type of 'markers of adulthood' that youth researchers may be moving away from. Indeed, the current trends in the ability for current cohorts of young people to achieve economic independence defined by this measure is far more challenging than in previous cohorts, and homeownership for those on low-incomes may never be possible. If this 'state' of adulthood may not be able to be realistically achieved for the low-income population of interest in this work, it may be questionable whether homeownership is a useful way to conceptualise adulthood status when it may never occur. The appropriateness of this measure of economic independence is a useful issue for qualitative researchers to consider in future work, because while policymakers view homeownership as an important adulthood milestone it will be useful to consider if young people of all backgrounds feel the same.

Despite these limitations, this investigation was able to contribute to knowledge methodologically and to the two fields of literature the work engages with (youth transitions and the welfare state). The next two sections outline the main contributions of this investigation in both areas and what research agendas emerge as a result, turning first to the methodological contributions of this investigation.

7.2 Contributions to Data Use and Methods

This investigation contributes to the wealth of studies that utilise these two datasets for longitudinal analysis. Because of the breadth of topics covered in each of the surveys it was not feasible or relevant to consider all of the previous investigations that have used them and how this work compares. However, it is useful to consider how this work engaged with each of the datasets to achieve the aims of this study and to propose ways they can be used in future work in these subject areas.

As noted in Chapter 3, the National Longitudinal Survey of Youth is an extremely robust survey, and the low attrition rate and breadth of life course topics and income information (including government assistance) it contains allowed for the US case to investigate some youth transition issues in slightly more detail than the UK case. This work was one of the first to exploit information on residential independence contained in this survey alongside benefit receipt, in order to consider if benefit receipt mediates the impacts of an early or late exit from the family of origin. The use of the welfare mix as an organising framework also allowed the residential independence covariates to serve as explicit indicators of the family welfare source, when in other studies residential independence is used as an outcome variable of a youth transition. The findings from the aspect of work in particular suggest that future surveys should continue to include questions on this important experience and if possible include even more explicit and consistent questions about parental transfers and support. It also suggests that future investigations with the NLSY should consider residential independence as a driver in outcome achievement as well as the outcome itself.

The size of the sample also allowed the models to separately consider the impact of two government assistance programmes, SNAP and TANF. This allowed for the investigation to consider the interaction of these two factors in the models, and illuminated how different types of government assistance may impact subpopulations of benefit recipients differently. The emerging results when two separate assistance programmes are considered suggests that future work with the NLSY should also try to separately include government assistance programmes that may serve different poor populations (as seen in the SNAP and TANF example), or include programmes that can compare ‘in-work’ in to ‘out-of-work’ benefits. An aspect of the NLSY dataset that was not able to exploited because of the need to have conceptually comparable measures between the two cases was monthly

benefit receipt information gathered from 1997 to 2009, which were used to create the programme-specific covariates on SNAP and TANF. The monthly data could be used in their original form to great extent, particularly with methods like survival analysis to investigate moving in and out of benefit eligibility within the course of a year or in the youth period more generally. The NLSY also contains information on the amount received in government assistance; monthly for the period 1997-2009 and annually for all waves. Future work can also consider if and how the amount of benefit receipt impacts the outcomes of interest here (such as labour market participation) or if there is a relationship between benefit amounts and residential independence for low income groups.

Future work with the NLSY can also investigate more detailed issues not able to be addressed here. First, due to data access issues and comparability requirements of this study the work was not able to investigate the geographical variation in outcomes for programmes like TANF. Researchers working in US institutions have access to state identifiers for each sample member and therefore can investigate whether the impacts of TANF differ between states with stricter and more lenient conditionality requirements and between states with higher and lower cash assistance values. Importantly, a key extension of this investigation is to produce more causal impact models with this cohort and with these additional topics using models such as regression discontinuity designs.

Working with the BCS subsample was a more challenging process than working with the NLSY, due in part to the funding history of this cohort survey (well documented in Pearson 2017) that made it challenging to capture consistent and detailed data in all waves. The funding challenges experienced by those administrating the survey in the late 1980s and 1990s meant that the only youth period survey available for this cohort was a shorter survey on a subsample of respondents, limiting the ability of the BCS case to make as nuanced conclusions as was achieved in the US case. The welfare state changes that took place during the BCS cohort's youth period also meant that information on only two benefit programmes – Housing Benefit and Income Support – was gathered in all survey waves. Paired with a very small number of sample members who received these benefits, it was determined that an aggregated measure of 'any benefit receipt' was the more adequate indicator and therefore a more detailed analysis of benefit programmes was not able to be produced.

The value of using the BCS subsample is that the work was able to measure youth specific experiences of a cohort in the early 1990s for a relatively large number of sample members, which is not available to be investigated with a large enough sample for this cohort by creating synthetic cohorts with household datasets like the British Household Panel Survey (BHPS). This investigation is one of a small number that use data on the BCS subsample to age 42, and despite the challenges noted above it was able to provide robust results about the youth period for this cohort which is not provided in other work with the larger BCS sample. In general youth research in the UK with this age group tends to use Youth Cohort Studies (which only covers the initial transition years out of secondary school) or more localised data for young people in one city or local authority. This work then was able to adequately exploit an underutilised resource within the BCS, and suggests that it can provide useful evidence on the youth period when synthesised with earlier BCS waves. Future work can also synthesise the 21-year sample survey with earlier BCS waves which was not undertaken here, which can provide evidence on childhood and family drivers of benefit receipt at 21 for this cohort which may be of particular interest for youth researchers.

The last notable technical contribution of this investigation is the use of the correlated random effects model for the wage outcome in both cases. While this model or a variant of it (the 'hybrid model' in Allison 2009) is included in the methodological literature and was first introduced by Mundlak in 1978 and reintroduced by Wooldridge in 2010, there has been very little empirical application of CRE models in the social sciences (notable exceptions include Elzinga and Gasperini 2015). It was important for this investigation to be able to explicitly estimate the main independent effects and interaction effects of time-invariant characteristics of sample members, which would be not be estimated in a fixed-effects model, and to ensure the standard errors on all covariates would be an unbiased as possible, a concern in random effects models. The ability of these two conditions to be met by using a correlated random effects model for a continuous outcome suggests that it should be considered alongside random- and fixed-effects models for future social science research if appropriate to the concerns of the research question. In this case it was valuable from a theoretical standpoint to explicitly measure characteristics like gender and race together in the US for example, and the application of this model was able to address those research concerns adequately. This work adds to the small number of publications who apply this work to empirical questions, and therefore is unique in the social sciences.

7.3 Contributions to Fields of Study: the Welfare State and Youth Transitions

This section distils the most important contributions of this investigation to the two fields of study brought together in this work, research on the welfare state and youth transitions. Notably, this section does not detail how the results here connect with all of the literature reviewed (which can be found in Chapter 6), but rather are the contributions that open up new lines of research inquiry.

In the welfare state literature, contributions to understandings of young parents, the role of government assistance for the poor and the very poor, and the gendered aspects of the welfare state are most notable to bring forth here. One of the research gaps identified at the beginning of this investigation was the relatively limited understanding of how young people as a subgroup interact with the benefit system. In general, previous studies in the welfare state literature (both econometric and otherwise) either do not differentiate benefit recipients by age or consider only young parents, even though especially in the UK young people are still eligible for benefits if they do not have children (this is less so in the US, as detailed in Table 2). The results in this investigation on young parents and the welfare state contributes to the work in previous studies. This work affirmed the importance of benefit receipt as a positive factor in the experience of young parents that is found in previous quantitative and qualitative work on this subpopulation. For the NLSY sample in particular, the association between benefit receipt and more positive outcomes for young parents who receive assistance compared to those who do not receive it concur with quantitative evidence that showed SNAP serves as a 'protective factor' to family income shocks (Shapiro 2017). This investigation also suggests a concurrence with qualitative evidence whereby SNAP is used as a consistent source of income to help parents engage in the labour market more effectively, as they are able to avoid 'fight or flight' responses to very low income emergencies (Edin & Shaefer 2016).

In general, though, the results of this associational investigation bring up even more questions than answers, both about the causal effects of benefits for this group but also new areas where associational research can be undertaken. The results here suggest that future research should consider the 'young' in young parents more adequately, particularly because much of the previous research on the welfare state considers parents of all ages.

There is more to be learned about how young parents may react differently to the benefit system than older parents who are low income, mostly because the latter group has more established work histories and labour market participation. For young parents, then, government assistance may be an even more notable factor to their overall labour market trajectory than older parents. Another aspect of the welfare state that should be studied in more detail for young parents as a particular subpopulation is tax credits. While there has been some evidence on lone parent's use of tax credits in the UK there has been little research in the US on this subgroup, and the lack of evidence on in-work benefits for this youth subgroup is a useful extension of this work. This could be explored firstly in associational models with administrative data on young parents and tax credits and then extended to causal models exploring poverty outcomes if the data exists.

The second aspect of welfare state research where this investigation contributes is in understanding the type of government assistance that is utilised by different subgroups of those who are low income. The results of this investigation on the different impacts of SNAP receipt for sample members who receive TANF and those who do not (i.e. a poor versus a very poor population) suggest that SNAP is a more positive factor in lives of the very poor than others. This aligns with econometric work whereby SNAP is seen as an assistance programme that has a larger effect on closing the poverty gap between the very low and low income than it does in moving sample members over the poverty line (Fox et al 2015; Meyer & Wu 2015). The variation in impacts of SNAP and TANF in this investigation may also suggest that there are different impacts of benefits based on the conditionality components of the benefit or that there are different impacts for cash and in-kind benefits; neither of which could be investigated fully here. These types of questions can also be explored using larger datasets in the UK with more adequate samples of those who receive JSA or Housing Benefit, for example. Future research should therefore find more adequate datasets (potentially administrative) that include both in-kind and cash assistance with substantial sample sizes in receipt where this type of variation can be investigated. Ideally this could be done with causal models analysing the relative merits of both to long-term poverty outcomes.

Finally, the variation in impacts of benefit receipt for women and for young female parents is a contribution to the understanding of how a liberal welfare state is gendered. The results here affirm that the welfare state continues to operate differently in the lives of

women compared to men even in countries where a 'universal breadwinner' model is now considered standard. As noted in section 7.1, future work should therefore consider gender more notably in the modelling strategy or conversely use less gendered outcomes for a study of youth transitions. The gender and benefit receipt interactions in these models also uncovered the need for future youth transitions work to more explicitly consider the way that young women are able to (or are not able to) engage with the welfare state while they transition in the family formation domain. These questions can be addressed with more quantitative research but also qualitative work which specifically addresses the tradeoffs and choices that young women have to face when they have children, and if and how government assistance is seen as a viable option to assist women in this period. The evidence here affirmed that family change is a key site of variation between male and female outcomes, and it would be valuable to consider whether the welfare state could more adequately play a role in reducing the 'child earnings penalty' exhibited by females in this investigation.

There are two further contributions more often addressed within the youth transitions literature that this investigation contributes to; intersectionality and the family as a welfare source. The US case was able to most notably consider the intersection of race and gender and race and class in the economic outcomes of sample members, and concurred with previous research identifying detailed variations in youth transition outcomes when multiple demographic factors are considered together. For example, the case of Black females in the US sample is a particularly notable population of interest that deserves further investigation in quantitative youth transitions work. The results here suggest that even with high levels of education and high levels of work intensity there are still higher poverty odds for this group (concurring with DuMontheir et al 2017). Intersectionality with regards to race and gender will remain a persistent concern for longitudinal youth researchers in the US (both for males and females), but will also need to continue to be a primary concern for youth researchers in the UK that investigate more diverse cohorts. In both cases more work should consider variation within gender groups as an area for future investigation, particularly given some of the first results on the intersection of gender and education in these models. Because of the time period of the BCS cohort and demographic makeup of the UK in 1970 it was not possible to investigate how race and gender or race and parental background impact the trajectory of a youth transition. The youth transitions research agenda in both countries is therefore primed to consider this area of conceptual

focus: considering intersectionality in youth transitions not just with regards to race but potentially with regards to young people with or without additional support needs, those with mental health concerns, by class or social status, sexuality and a myriad of other characteristics that shape the way that young people experience this transition period.

The final area where this work makes a notable contribution to youth transitions literature is in the application of the welfare mix framework (Powell & Barrientos 2004) to questions about young people and the welfare state as proposed by Antonucci et al (2014). This framework enabled the investigation to interact explicitly with the family as a welfare source. This approach stands in contrast to the implicit consideration of the family in a youth transition experience in current policy formulations, whereby policies differ for those under age 25 based on the assumption of family support but it is an issue not addressed explicitly. This investigation affirmed that the family welfare source is an avenue through which inequality is manifested in multiple ways, and this investigation showed that indeed the family can be considered a 'safety net' and a 'scaffold' during the transition to independence Swartz et al (2011). The consideration of the family as welfare source was included in this investigation in two ways; using a measure of parental background and using a measure of residential independence. First the work explicitly considered in both cases how the impact of a young person's parental background varies for different demographic groups, and also how this factor's influence may or may not change as a young person grows up. This investigation found that rather than the impact of parental background losing its significance into adulthood this factor persists, concurring with previous work affirming that parental background is a key factor shaping youth transitions (DiPrete & Erich 2006; Fingerman 2015; McLanahan 2004).

The explicit analysis of the impact of parental background rather than as a control variable also aimed to connect with research on parental resources and transfers in a youth transition (Ermisch 1999; Ermisch & DiSalvo 1997; Schoeni & Ross 2005; Smeeding & Phillips 2002). Unlike those studies, however, the datasets used in this investigation did not provide information on discrete monetary amounts transferred to sample members and therefore the same type of estimates were not able to be produced. Rather the inclusion of parental background served as a proxy for how parental resources may potentially function in a young person's life course. This is an important area for future surveys and research to address, and surveys should aim to include a measure of the amount of parental transfers

received by a young person. Future qualitative work can also continue to investigate how this type of monetary support for young adult children affects the nature of the parent-child relationship and subjective feelings of independence for the young person.

Despite the lack of explicit measurement of parental transfers in these datasets, this study was able to notably contribute to both youth transitions and welfare literature by considering the measure of residential independence as a youth transition *resource* rather than an *outcome.* The US case investigated the impact of moving out earlier in the youth period on economic independence and also began to consider empirically the 'safety net' aspects of the parental home and the ability to 'boomerang' back home. A contribution of this investigation to debates in the field is the finding that moving out early should be considered as normatively 'better' or 'worse' for a successful youth transition based on the measure of economic independence being analysed. Here the work found that those who move out before age 24 have higher work intensity odds and higher wages on average; evidence perhaps of a 'successful' youth transition. However, echoing previous life course work by Aassve and colleagues (2007), this investigation found higher poverty rates in early adulthood for those early movers. This work also affirmed that the ability of a young person to move back into their family of origin also was associated with lower poverty outcomes. Both fields of research should therefore more adequately conceptualise the family as a concrete and explicit resource that young people draw on in this period, and work should consider the value of the parental safety net as even more important in a welfare state context where a state safety net is limited.

The findings in this area open up many new lines of inquiry in the youth transitions and welfare state research agenda, particularly if work in both begin to place a greater focus on the family welfare source as suggested here. First, quantitative work can more actively consider how to include measures of family resources as influences in a youth transition apart from the traditional measure of parental background as socioeconomic status. Using the age at initial move out covariate was the way this investigation was able to proxy for parental resources, but this has a drawback of not being able to adequately capture why a young person left; were they able to leave because their parents were able to support them independently, or did they have to leave because their parents were unable to support them in the home? A measure of parental monetary transfers in quantitative work might then be more ideal, and future qualitative work can continue to investigate these

complicated family experiences that arise when family resources can only be provided via longer co-residence.

Two other issues regarding residential independence emerged here and warrant future investigation in the field. The work found emerging results on the impact of moving back after an initial move out on later outcomes and found that the ability to move back in is associated with lower odds of poverty, but this 'boomerang' experience was only considered at one occurrence. The NLSY and other survey datasets should consider the impact of this boomerang experience more adequately, especially if there is a tipping point in the number of 'boomerang' experiences that change it from a protective factor to a negative factor as evidence of a 'failure to launch'. Emerging results in this investigation also found that the impact of moving out of the parental home before age 24 differs by racial group, opening up a new avenue for youth research in considering how and why race matters in this experience. For example, future work can interrogate whether this result is because White parents on average have more capital to support children both in and out of the home in a youth transition and therefore the 'safety net' plays a larger role in their transition experiences (which can be detailed quantitatively). Or, future investigations can address intra-family relationships as a driver for this residential independence pattern, as the pattern may be the result of distinctly different expectations of independence for young people from different racial groups (which may be better answered qualitatively). Because the boomerang experience and later residential independence is an emerging life course pattern for Millennial and younger cohorts, it is particularly valuable that researchers in both fields consider these issues now; both to understand the nature of short term impacts but to include them in research designs and datasets interested in longer-term impacts of youth transition experiences.

7.4 Policy Recommendations

The closing issue to consider is how the results of this investigation can be translated into concrete policy recommendations for both country's welfare states. An important point to consider from the comparative discussion of this work is that indeed, even though short-term impacts to recipients may differ, the long-term impacts of means-tested benefits operate similarly for each country by virtue of their place in a liberal welfare state. These common long-term outcomes are likely due to the nature of a residualist liberal welfare state that is designed primarily as a safety net, so low-income young people who interact

with the system will therefore have relatively the same characteristics and prospects. However in both cases the work found positive findings for target groups of recipients, which suggest that there are ways to improve current welfare programmes to become less punitive and more accessible for young people with and without children.

The policy recommendations here therefore consider changes to policies within the structure of the two liberal welfare states investigated; both to make this work more immediately policy relevant and because this work does not engage with debates about the relative merits of different welfare regimes for youth transition outcomes (which is outside the scope of this thesis). Because this investigation interacted with issues in policy areas related to labour market outcomes and welfare policy, policy recommendations in the education and training policy areas are not included. However, these policy areas do impact the prior conditions for a young person's transition project and are indeed particularly notable for the youth population. And finally, all of the policy recommendations here are provided within the context of the young person as the benefit unit rather than their family of origin. Chapter 6 raised the issue of whether these welfare states should consider supporting the family of origin to a greater extent via more child benefits or child tax credits, which would shift further responsibility for a young person's welfare onto their family in the youth period. Given that the aim of this investigation is to consider how young people can become economically independent away from their family of origin, however, this point of view for policy recommendations is not appropriate. Instead, this final section considers how policies can be reformed to improve individual economic independence for low-income young people as independent benefit units.

Making work pay

Attachment to the labour market is the key outcome of interest for youth policymakers, and indeed in a liberal welfare state the labour market is considered the primary source of one's welfare. As noted earlier in this chapter the assumption of labour market attachment is a gendered outcome for a youth transition, but the policy context for youth labour market attachment is currently a 'universal breadwinner model'. Therefore, changes to a young person's returns from the labour market is likely the most notable way to intervene to improve transition outcomes for all young people. In the UK, economic independence can be improved by removing different wage rates between young people and those over 25 in all types of work and increase apprentice wages in all industries to the minimum wage

even in their first year; currently low-wage workers under 25 are not eligible to receive the National Living Wage (which is the minimum wage defined by the Government) and apprenticeship wages are lower than the minimum wage if the apprentice is under 19 or in their first year (UK Government 2018). These two changes would ensure young workers are compensated adequately for their work and would enable young people who are already in the labour market to support themselves independently to a greater extent. This should however also be followed by a change for workers in all sectors to be paid a more appropriate living wage as defined by the Living Wage Foundation, which sets the wage higher than the government minimum wage (currently £9/hour outside of London and £10.55 in London, compared to the government minimum wage of £8.21/hour for all adults over 25) (Citizens UK 2018).

Changes to minimum wages should also occur in the United States, where it is currently not possible to have a comfortable standard of living for those working full time on a minimum wage income. Minimum wage rates are set federally but are also set by states and cities, so there is particularly wide variation across the country. A grassroots movement in the US currently calls for $15/hour minimum wages for workers in cities and states with particularly high costs of living (e.g. San Francisco, Seattle, Illinois, New York) and as of the time of this writing some cities and states have been able to enact these pieces of legislation. However, these changes have been achieved in a piecemeal fashion and should be made nationwide, with state-level standards of living calculated and then addressed with new minimum wage policies appropriate to the state context. A change to the minimum wage will have an outsized effect on young people in particular, as this population is concentrated in low- to minimum-wage work and would ensure that labour market attachment enables young people to become independent from their family of origin.

Changes to the minimum wage would affect young people who do and do not have children equally, so therefore a distinction is not made in the policy recommendations in this area. However, all other policy recommendations must be considered separately for both countries and for parenting and non-parenting young people. Because of the programme contexts differ and are more complex the two countries are taken in turn; first the US and then the UK, with young parents considered first and young people without dependents considered second.

Policy Recommendations: young parents in the US

The results of this investigation affirmed that the welfare state plays a key role in the experience of young parents and their attachment to the labour market, and therefore they should still be considered a key deserving population of interest regardless of if the parents are in a single or lone parent household. An overarching policy recommendation for this subgroup is to ensure that all young parent families living under 150% FPL should be eligible for cash and in-kind assistance, a recommendation that affects administration of TANF most notably. TANF is either not accessed by low-income families or is simply unable to adequately aid young families who do receive the benefit; this is because benefit levels are low, conditionality is high and the system harshly punishes recipients who do not comply with work requirements. This has created a system which is not fit for purpose and simply does not serve as a way for low income families to access cash assistance that can be used for non-food items. A challenge for cash assistance programmes is to balance work incentives and adequate support mechanisms. To improve this programme for young parents, lifetime limits for TANF should be removed altogether and rather TANF should be made available to young parents until their youngest child is age 5 and stringent work requirements should be removed for this group with very young children. For parents with older children TANF should still be available, however, but benefit levels should be increased to 70% of the average minimum wage for those who have no earned income, with work requirements in place and time limits for shorter consecutive periods (e.g. 6 months consecutively). This would be able to account for the dynamic nature of welfare and poverty occurrence more adequately than lifetime limits. To accomplish this, more of TANF's block grant funding to states should be allocated to cash assistance than to other less-directly applicable services to the majority of young parents.

One of key oversights when requiring work for TANF families in the current system and a challenge for most low-income families generally is the absence of quality, low-cost childcare available in the United States. This 'crisis of care' (Lewis 2006) is an issue that has been relatively ignored by social policy in the United States, and is incongruous with the expectation of young parents to engage with the labour market. With changes to TANF as recommended above, the childcare system as it exists now would not have to substantially change because women would be able to stay at home until their children are school aged. However, if the welfare state wants to improve young parents' labour market success there

is a need for free or low-cost childcare to be made more available, particularly to parents at 150% FPL or below. This could be done by creating a voucher system in the same vein as Housing Choice Vouchers to purchase childcare via the private market or could be done by increasing funding of Head Start early childhood programmes by federal and state governments. Given that most of TANF block grant funding is allocated to other social service programmes, another reallocation of those funds could go towards establishing more Head Start centres in each state to assist TANF-eligible families in accessing free early childhood care. If possible, the provision of childcare should also be available outwith the standard working day of 9 am to 5 pm Monday through Friday, particularly as low income workers in the service or retail sectors work in the evenings or weekends and are not adequately served by current programmes.

The final area to consider for young parents is in housing assistance, as a major concern for low-income families is accessing housing that is safe and affordable when only roughly a quarter of eligible families (currently those living below 50% AMI) are able to access any type of housing assistance in the US (Edin & Shaefer 2016). Changes to wages, childcare and TANF as recommended here would certainly improve the prospects of low income young parents to find suitable housing but unfortunately there is a consistently low stock of affordable housing in the United States. To address this, TANF families who are very low income (under 75% FPL) should be considered as priority for current housing assistance and 'passported' into existing vouchers. This change would therefore necessitate more funding for housing vouchers from the federal government than is currently offered to still account for current priority voucher groups (those who are homeless and the low-income elderly). An expansion of housing vouchers as an entitlement for those young families living at 150% FPL would also provide more security for this low income parenting group, whereby the family would still be required to put forth 30% of their monthly discretionary income to rent and the rest would be addressed by the voucher amount. This would require housing assistance to become an entitlement rather than a discretionary programme as it currently functions, where assistance amounts are fixed by local housing authorities. The government budget for housing assistance would therefore expand and adjust based on need. Finally, the government itself could commit to building more public housing, preferably in smaller, mixed use developments.

Policy Recommendations: young people without children in the US

As mentioned in Chapter 6, an important way to improve the outcomes for young people without children who are active in the labour market is to make the Earned Income Tax Credit available for those under 25 at the same rates as single earners over 25. This would ensure that, along with increases in the minimum wage, low income young workers would be able to access assistance adequately. SNAP assistance is another existing programme that can be revised to more adequately address the needs of young people, and is one of the policy recommendations most explicitly addressed by this investigation. First, all those under 150% FPL should be eligible for SNAP assistance without limits to the amount of time that a young person can receive assistance if not working; for those who may be unemployed for longer than 3 months there needs to be a way for people to access food in supermarkets rather than in an ad-hoc manner through the third sector. SNAP assistance should also be made available for those who are low income and enrolled in postsecondary education (both full and part-time) who are currently barred from the programme. This likely contributes to the growing percentage of low income students who are food insecure (Goldrick-Rab et al 2018). Opening up this benefit to both of these groups would ideally be able to extend the benefits of SNAP as a protective factor to this low income group.

The challenge in the current US welfare system is the lack of an existing programme for young people who are unemployed without any substantial contributions to unemployment insurance, a group that has never been considered a deserving group for assistance. Therefore, it is highly unlikely that in the current policy climate there would be an appetite to establish a programme of cash assistance. That aside, there may be a way to identify particularly high-risk young people for short-term cash assistance via receipt of SNAP who would be eligible for a new programme of intensive social work and labour market attachment assistance. Cash assistance would be available at higher levels for the first 6 months of the programme, potentially set slightly lower than the minimum wage rate of full time workers per week to incentivise labour market attachment alongside social work interventions. A social work model would assess what skills are needed to access the labour market successfully and a further 6 months of assistance would be available if needed. Importantly, the levels of assistance for the first six months would not reduce if a job was attained, as the amount of assistance would allow for independent living situations

to be achieved in the rental market (which is a major barrier for young people entering the rental market without money for a deposit).

This year-long intervention for the particularly hard to reach would be buttressed by changes finally to the system of housing assistance for single young people. Ideally the system of assistance would be revised to a UK housing benefit style assistance for young people who are particularly vulnerable: those who are leaving the care or juvenile justice system and young people who receive SNAP who also are currently unhoused or unstably housed (e.g. living doubled-up with friends or relatives). Although within the current welfare system resources should still be targeted towards young parents with children, if the system expands it should be possible for young people who have been identified as homeless or high-risk to receive a place in public housing or with a housing choice voucher; again with the acknowledgement that funding would have to increase.

Policy recommendation: young parents in the UK

Today's UK welfare system is very different than what was accessed by young parents in the BCS cohort, with reforms arguably moving the UK further towards a more punitive welfare state for both young people with and without children (save for the entitlement to Housing Benefit). Up until the Conservative reforms in 2008, low income unemployed families with children were able to access the cash assistance system of Income Support while their children were under the age of 8 without work requirements. However, reforms to move parents from Income Support to JSA, and the introduction of work requirements for the small number of lone parents eligible for Income Support with children as young as 3, has meant that most parents with children are subject to work requirements in order to receive cash assistance. As with the recommendations for the TANF programme, reinstating cash assistance via Income Support available for young lone parents without work requirements while the youngest child is under 8 is recommended, particularly because there are fewer assistance options for families without work requirements in the current system. Perhaps the largest change to young parent incomes introduced in recent welfare reforms is the benefit freeze and benefit cap, which freezes the real value of benefits and tax credits and limits the total amount of assistance that can be received; simply, low-income young parents are now able to afford less (CPAG 2017). A way to offset these freezes is to have benefit amounts increase with inflation such that the real values of benefits stay consistent. To combat this issue outside of uprating, one way to improve

outcomes for young parents is to increase the amount of Child Benefit by £5 per week for those who are low income parents. This style of income supplement was introduced by the Scottish Government in 2018 and would be worthwhile to introduce in other parts of the UK. This seemingly 'small' policy change would ensure an extra £20 a month for very low income parents to buy more food and other necessities without work requirements, and would increase the amount of guaranteed support a family receives a week.

Again, a primary challenge for low-income parents in the UK is accessing available childcare while their children are young so they can participate in the labour market. Ensuring that an adequate number of free or low cost early childhood centre places are available to families in a local area is a key way that young parents' labour market situations can improve. Current policy allows for a certain number of childcare hours per year for 3 and 4 year olds, but this should be extended in all UK countries for 2 year olds. Local authorities should also receive more central government funds for the establishment of childcare centres for low income families or to expand the hours that centres are open to account for low income parents who work in sectors with non-traditional hours. Childcare support is also provided through the tax credit system for low-income families, whereby families can claim back up to 70% of eligible child care costs. An increase back to 80% as it was before the 2011 reforms could ensure that more low-income families can keep their income for other necessities. For young parents who are able to work at (often) low wage work, the availability of low cost or free childcare is a key component of ensuring labour market attachment for this group, and is an area of assistance that can help to cushion the negative effects of young parenthood for females in particular.

Finally, the entitlement to affordable housing for young parents is an area where support should continue as a priority, particularly for the growing number of young parents who have to rent in the private sector. The reduction in social housing stock and the lower rate of local housing allowance available to young parents to be paid to private landlords has meant that young people with very low incomes have been unable to make up the difference in the local housing allowance with their income. A way to improve this is to rebuild social housing stock, to increase the local housing allowance paid to private landlords back up to half of the median market rental value, and to ensure that the local housing allowance is uprated to adjust to the market values rather than the consumer price index (CPAG 2017). Although likely not possible within the current system, it might also be

valuable to pilot whether the housing assistance amount could be better administered by using the difference in 30% of the recipient's income and the monthly rental amount at the average market rental price as the voucher system works in the United States. This system would ensure that no more than 30% of a young parent's disposable income is paid towards housing costs, which may be able to ensure that housing does not take up a disproportionate amount of disposable income.

Policy recommendations: young people without children in the UK

Young people without children in the UK do have a comparatively more generous system of supports available to them than young people in the US because of the presence of some form of cash assistance, but the system can be improved upon to ensure that young people are able to live independently and receive adequate support into the labour market if needed. As with the US, a particularly notable way to improve the economic independence outcomes of many low-income young people who are engaged in the labour market is to make Working Tax Credits eligible for those under 25. Paired with a higher living wage, this would enable more young people to become independent and would also provide more benefits to being engaged in the labour market early. This oversight in policy can be addressed relatively easily within the current system.

A second way to assist young people to independence in the UK is by improving Housing Benefit. Currently those who are under 35 receive the lowest rate of Housing Benefit (the Shared Accommodation Rate) which is often still not enough to afford many rooms in private tenancies. Increasing this amount alongside making more places available in social housing for single young people are ways to improve these outcomes and would also necessitate more social housing to be built and more private landlords who would be willing to rent to a young person on Housing Benefit (now Universal Credit). These issues have become particularly prevalent in the last five years, with a rise in youth homelessness a result of these benefit changes and higher private rental costs (Centrepoint 2018). An increase in social housing stock would solve some of these problems which would need to be paired with greater targeting of social housing placements for young people who have been identified as homeless or those with complex needs (i.e. those leaving care or the juvenile justice system).

One important programme of support available to single young adults with no job history is Jobseeker's Allowance, which theoretically can provide safety net assistance for young

people who are unemployed. However, the amount is often unable to address the basic needs of food and shelter and the sanction regime is particularly punitive. It is therefore vital that the model of support is focused on social work principles rather than activation principles, and that the amount of assistance is slightly increase to ensure subsistence. To improve the way that JSA functions for young people, social workers should assess the needs and skills of young people early in the claiming process and those who have particularly complex cases (e.g. little family support, history in the care system, drug/alcohol issues) should be geared towards an intensive programme *before* they are unemployed for 6 months. This is in contrast to the current system where higher-intensity levels of support are only available once a recipient has been unemployed for 6 months. Ideally young people should be able to receive high levels of social work interventions early on, with connections both to further education, meaningful paid training programmes, and connections to employers if they are deemed ready. A challenge for young people in their initial labour market attachment is the inability to be supported with other aspects of independence if working at a low income or if they are in a training programme/further education with little family support; a social work model of intensive support for those with the most complex cases may be able to help these young people attach more steadily than the current model. It is important in this period to also avoid sanctions and punishment for the majority of participants. It is likely that jobs will be insecure and lives chaotic, so sanctions will do little for this group specifically, and indeed it may cause further disengagement from support they are entitled to.

Overall recommendations: the role of assistance

Although all of the policy recommendations here must be necessarily varied to account for the different country contexts, the recommendations as a result of this investigation are premised on the notion that there are indeed ways for an existing liberal welfare state to intervene positively in the lives of low income young people; and more pointedly that state assistance can be a pivotal part of a youth transition for those who are particularly disadvantaged. This investigation sought to interrogate this question specifically and looked towards longitudinal data to ask how interactions with the benefit system in the youth transition period can influence the trajectory of economic independence. The key findings suggest that for the low income young people who are eligible to receive means-tested benefits, government assistance can serve as a positive factor in labour market transitions,

particularly for those groups such as young parents or very low income families who can currently receive more support. This work also was able to find emerging results on the way in which the family welfare source functions in a youth transition, and affirmed that the family is a key resource in a youth transition that must continue to be interrogated both in research and policy design. Overall, the work affirms that if young people are to reach the high expectations of early economic independence, low income young people in particular should be able to receive more concentrated levels of stable support via cash and housing assistance during the often chaotic period of a youth transition.

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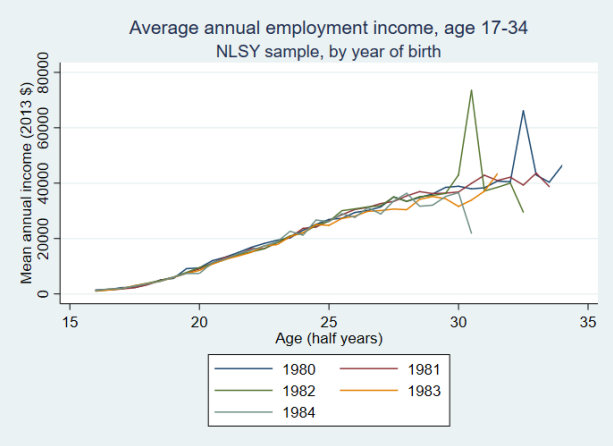
Appendix A: NLSY Outcome Descriptives by year of birth

NLSY descriptive figures on the three outcome variables of interest (or their underlying measures) and the cohort members' year of birth were produced to determine if it is appropriate for a dummy variable for birth year to be included in regression models. In each of the figures for ages where the total sample is surveyed (ages 17-29), the figures did not show sufficient variation to warrant dummy variable inclusion. Therefore, the NLSY sample was treated as a single cohort.



Appendix B: Patterns of panel missingness

Case 1: BCS patterns of panel missingness

Figure 1: Patterns of panel missingness, n = 1645 including 1986 survey wave

Wave 1 = 1986, Wave 2 = 1991, Wave 3 = 1996, Wave 4 = 2000, Wave 5 = 2004, Wave 6 = 2012

```
    pid:  1, 2, ..., 1645                                  n =       1645
   wave:  1, 2, ..., 6                                     T =          6
          Delta(wave) = 1 unit
          Span(wave)  = 6 periods
          (pid*wave uniquely identifies each observation)

Distribution of T_i:   min      5%     25%       50%       75%      95%     max
                         1       2       4         5         6        6       6

     Freq.  Percent     Cum.  |  Pattern
-------------------------------+---------
       668    40.61    40.61  |  111111
       151     9.18    49.79  |  11.111
       119     7.23    57.02  |  .11111
        84     5.11    62.13  |  11111.
        59     3.59    65.71  |  11....
        58     3.53    69.24  |  1111.1
        55     3.34    72.58  |  1111..
        53     3.22    75.81  |  11.11.
        40     2.43    78.24  |  111...
        34     2.07    80.30  |  .1....
        32     1.95    82.25  |  .1.111
        28     1.70    83.95  |  11.1..
        25     1.52    85.47  |  11.1.1
        24     1.46    86.93  |  11...1
        24     1.46    88.39  |  111.11
        23     1.40    89.79  |  .1111.
        20     1.22    91.00  |  .1.11.
        19     1.16    92.16  |  11..11
        17     1.03    93.19  |  .11...
        16     0.97    94.16  |  .1...1
        15     0.91    95.08  |  .111..
        14     0.85    95.93  |  111..1
        13     0.79    96.72  |  111.1.
        12     0.73    97.45  |  .1.1..
        12     0.73    98.18  |  .111.1
        11     0.67    98.84  |  .1.1.1
         7     0.43    99.27  |  .11.11
         7     0.43    99.70  |  11..1.
         5     0.30   100.00  |  .11..1
-------------------------------+---------
      1645   100.00           |  XXXXXX
```

Figure 2: Patterns of panel missingness, n = 1131 (does not include 1986 panel)

```
     pid:  1, 2, ..., 1644                                  n =       1131
     age:  21, 26, ..., 42                                  T =          6
           Delta(age) = 1 unit
           Span(age)  = 22 periods
           (pid*age does not uniquely identify observations)

Distribution of T_i:   min      5%      25%       50%       75%      95%      max
                         5       5        5         5         5        5        5

     Freq.  Percent    Cum.  |  Pattern*
------------------------------+----------
       787    69.58   69.58  |  1111.1
       183    16.18   85.76  |  1.11.1
        70     6.19   91.95  |  111..1
        36     3.18   95.14  |  1.1..1
        31     2.74   97.88  |  11.1.1
        19     1.68   99.56  |  1..1.1
         5     0.44  100.00  |  11...1
------------------------------+----------
      1131   100.00          |  XXXX.X
*Each column represents 4 periods.
```

Case 2: NLSY patterns of panel missingness

Figure 3: Patterns of panel missingness, n = 8,894

**First 17 patterns shown here for brevity*

```
   pubid:  1, 2, ..., 9022                                  n =       8984
    year:  1997, 1998, ..., 2013                            T =         16
           Delta(year) = 1 unit
           Span(year)  = 17 periods
           (pubid*year uniquely identifies each observation)

Distribution of T_i:   min      5%      25%       50%       75%      95%      max
                         1       5       13        16        16       16       16

     Freq.  Percent    Cum.  |  Pattern
------------------------------+---------------
       4966    55.28   55.28  |  111111111111111.1
        218     2.43   57.70  |  111111111111111..
        105     1.17   58.87  |  11111111.111111.1
        101     1.12   60.00  |  1................
         83     0.92   60.92  |  1.1111111111111.1
         79     0.88   61.80  |  1111111.1111111.1
         76     0.85   62.64  |  1111.1111111111.1
         71     0.79   63.43  |  1111111111.1111.1
         61     0.68   64.11  |  11.111111111111.1
         56     0.62   64.74  |  111.11111111111.1
         56     0.62   65.36  |  111111...........
         54     0.60   65.96  |  11111111111111...
         53     0.59   66.55  |  11111.111111111.1
         53     0.59   67.14  |  111111111.11111.1
         51     0.57   67.71  |  11111111111111..1
         50     0.56   68.27  |  11111111.........
         47     0.52   68.79  |  1111............
```

Figure 4: Patterns of panel missingness, n = 8,296

```
   pubid:  1, 2, ..., 9022                                    n =       8296
    year:  1997, 1998, ..., 2013                              T =         16
           Delta(year) = 1 unit
           Span(year)  = 17 periods
           (pubid*year uniquely identifies each observation)

Distribution of T_i:   min      5%     25%       50%       75%     95%     max
                         7       9      14        16        16      16      16

     Freq.  Percent    Cum.  |  Pattern
------------------------------+-----------------
      4966    59.86   59.86  |  111111111111111.1
       218     2.63   62.49  |  111111111111111..
       105     1.27   63.75  |  11111111.111111.1
        83     1.00   64.75  |  1.1111111111111.1
        79     0.95   65.71  |  1111111.1111111.1
        76     0.92   66.62  |  1111.1111111111.1
        71     0.86   67.48  |  1111111111.1111.1
        61     0.74   68.21  |  11.111111111111.1
        56     0.68   68.89  |  111.11111111111.1
        54     0.65   69.54  |  11111111111111...
        53     0.64   70.18  |  11111.111111111.1
        53     0.64   70.82  |  111111111.11111.1
        51     0.61   71.43  |  11111111111111..1
        50     0.60   72.03  |  11111111.........
        46     0.55   72.59  |  1111111..........
        44     0.53   73.12  |  1111111111111....
        43     0.52   73.64  |  111111.11111111.1
```

Appendix C: Univariate Statistics

Case 1: BCS Univariate Statistics, All Covariates

Univariate statistics provided for all covariates used in the modelling apart from those which are also used as outcome measures, the details of which are provided in Chapter 4 before each of the outcome model results. Univariate descriptive statistics for the covariates of primary interest in this investigation, Government Intervention, are provided in detail at the beginning of Chapter 4.

Block 1: Demographic Characteristics

Gender		
	Freq	%
Male	489	43.24
Female	642	56.76
Total	1131	100.00

Educational Qualification		
	Freq	%
None	97	8.58
CSE/NVQ 1	93	8.22
O Lev/NVQ 2	294	25.99
A Lev/NVQ 3	202	17.86
Higher Qs/NVQ 4	372	32.89
Degree +/NVQ 5	73	6.45
Total	1131	100.00

Region	**1991**		**2000**		**2004**		**2012**	
	Freq	%	Freq	%	Freq	%	Freq	%
London	109	9.64	126	11.71	106	10.39	100	8.84
Rest of England	964	85.23	886	82.34	857	84.02	968	85.59
Wales & Scotland	58	5.13	64	5.95	57	5.59	63	5.57
Total	1131	100.00	1076	100.00	1020	100.00	1131	100.00

Block 2: Employment Domain

Employment Status	**1991**		**2000**		**2004**		**2012**	
	Freq	%	Freq	%	Freq	%	Freq	%
FT Work	805	71.24	735	68.44	655	64.34	716	63.42
PT work	49	4.34	152	14.15	187	18.37	260	23.03
Unemployed	81	7.17	25	2.33	14	1.38	27	2.39
FT Ed	112	9.91	11	1.02	10	0.98	3	0.27
Home	67	5.93	121	11.27	122	11.98	93	8.24
Training	6	0.53	0	0.00	0	0.00	0	0.00
Sick/Disabled	10	0.88	30	2.79	30	2.95	30	2.66

Total	1130	100.00	1074	100.00	1018	100.00	1129	100.00

General health	**1991**		**2000**		**2004**		**2012**	
	Freq	%	Freq	%	Freq	%	Freq	%
Excellent	435	38.56	361	33.61	325	31.89	253	22.45
Good	568	50.35	568	52.89	486	47.69	735	65.22
Fair	115	10.20	130	12.10	157	15.41	98	8.70
Poor	10	0.89	15	1.40	51	5.00	41	3.64
Total	1128	100.00	1074	100.00	1019	100.00	1127	100.00

Block 3: Family Formation Domain

Marital Status	**1991**		**2000**		**2004**		**2012**	
	Freq	%	Freq	%	Freq	%	Freq	%
Not Married	820	73.61	579	53.91	447	43.87	420	37.17
Married	294	26.39	495	46.09	572	56.13	710	62.83
Total	1114	100.00	1074	100.00	1019	100.00	1130	100.00

HH Size	**1991**			**2000**			**2004**			**2012**		
	Freq	Mean	SD	Freq	Mean	SD	Freq	Mean	SD	Freq	Mean	SD
	1126	3.31	1.34	1070	2.81	1.22	1017	3.08	1.27	1131	3.37	1.27

Young parenting	Freq	%
No	1005	89.81
Yes	114	10.19
Total	1119	100.00

Block 4: Parental Income 1986

Parental Income 1986	Freq	%
Quintile 1	115	12.17
Quintile 2	212	22.43
Quintile 3	208	22.01
Quintile 4	58	6.14
Quintile 5	34	3.60
Missing	318	33.65
Total	945	100.00

Case 2: NLSY Univariate Statistics, All Covariates

Univariate statistics provided for all covariates used in the modelling apart from those which are also used as outcome measures, the details of which are provided in Chapter 5. Univariate descriptive statistics for the covariates of primary interest in this investigation, Government Intervention, are provided in detail at the beginning of Chapter 5.

Block 1: Demographic Covariates

Gender		
	Freq	%
Male	4233	51.02
Female	4063	48.98
Total	8296	100.00

Race		
	Freq	%
Black	2212	26.66
Hispanic	1773	21.37
Mixed Race	77	0.93
White	4234	51.04
Total	8296	100.00

Highest Degree 2011		
	Freq	%
None	738	10.06
GED	924	12.59
HS Diploma	3244	44.21
AA	536	7.30
Bachelor's Deg	1474	20.09
Masters Deg	335	4.57
PhD	13	0.18
Prof Deg	74	1.01
Total	7338	100.00

Urban/ Rural Status

	Avg 1997/2000	Avg 2001/2004	Avg 2005/2008	Avg 2006/2013
	%	%	%	%
Rural	23.91	20.44	18.46	18.12
Urban	72.75	76.50	78.33	79.29
Unknown	3.34	3.06	3.21	2.59
Total	100	100	100	100

Census Region				
	Avg 1997/2000 %	Avg 2001/2004 %	Avg 2005/2008 %	Avg 2006/2013 %
Northeast	17.17	16.67	15.69	15.40
North Central	22.37	22.09	21.55	20.82
South	38.36	39.01	40.12	41.02
West	22.1	22.23	22.64	22.76
Total	100	100	100	100.00

General Health				
	Avg 1997/2000 %	Avg 2001/2004 %	Avg 2005/2008 %	Avg 2006/2013 %
Excellent	38.60	31.7	27.02	22.94
Very Good	32.85	35.50	36.09	36.13
Good	23.10	25.79	28.33	29.48
Fair	5.05	6.45	7.79	10.06
Poor	0.40	0.56	0.77	1.39
Total	100	100	100	100

Block 2: Employment Domain

Employment domain covariates used in models, annual income from employment and work intensity, are described in detail in Chapter 5, as they also serve as outcome variables

Block 3: Family Formation Domain

Marital Status				
	Avg 1997/2000 %	Avg 2001/2004 %	Avg 2005/2008 %	Avg 2006/2013 %
Not married	97.66	90.56	76.72	64.82
Married	2.34	9.44	23.28	35.18
Total	100	100	100	100

Household size	Avg 1997/2000		Avg 2001/2004		Avg 2005/2008		Avg 2009/2013	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	4.36	1.60	3.71	1.75	3.22	1.67	3.27	1.68

Young parenthood		
	Freq	%
Not a parent before age 24	5510	66.42
Parent before age 24	2786	33.58
Total	8296	100.00

Age at initial move out		
	Freq	%
Before 19	2077	25.04
Between 19-21	2056	24.78
Between 21-24	1865	22.48
After 24	2298	27.70
Total	8296	100.00

Ever move back after initial move out		
	Freq	%
No	3542	45.50
Yes	4242	54.50
Total	7784	100.00

Block 4: Parental Background

Parental Income Quintile 1997		
	Freq	%
Quintile 1	1241	14.96
Quintile 2	1284	15.48
Quintile 3	1196	14.42
Quintile 4	1232	14.85
Quintile 5	1193	14.38
Missing	2150	25.92
Total	8296	100.00

Parental aid history		
	Freq	%
No	3652	44.02
Yes	3715	44.78
Missing	929	11.20
Total	8296	100.00

Appendix D: Hausman specification tests

The Hausman specification test results for the BCS wage model and the NLSY wage model, all run on the final main effects model.

Hausman Specification Test, BCS Sample

```
. hausman block5mainFE  block5mainRE
```

	Coefficients			
	(b) block5mainFE	(B) block5mainRE	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
age				
30	.558285	.5887158	-.0304309	.0110976
34	.8273053	.8497696	-.0224643	.0132828
42	1.101474	1.107899	-.0064253	.0138146
regionsmall				
2	-.1701645	-.1909514	.020787	.0607089
3	-.1843112	-.3291892	.144878	.1736662
empstatn				
2	-.8751417	-.9177372	.0425955	.0234261
3	-.118547	-.0692074	-.0493397	.0662979
4	-1.122686	-.9378901	-.1847961	.0562973
5	-.0938333	-.2372687	.1434354	.0931701
7	-.4996226	-.34788	-.1517426	.3364868
2.marstatbin	.0497982	.060525	-.0107268	.0210961
1.benrecd	-.1618596	-.1914014	.0295418	.0299171

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(12) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 31.26
Prob>chi2 = 0.0018

Hausman specification test results, NLSY sample

```
. hausman block5mainFE block5mainRE
```

	Coefficients (b) block5mainFE	(B) block5mainRE	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
agehalf	.1590249	.157596	.0014289	.0002757
urban				
1	.0782836	.0724431	.0058405	.0058767
2	.1663946	.1758458	-.0094513	.0069573
censusreguse				
2	-.1202991	-.1467647	.0264657	.0321791
3	-.0263196	-.0750906	.048771	.0264607
4	.0790551	-.0017826	.0808377	.0307133
workint				
1	.1052599	.1170655	-.0118056	.0052531
2	.2504142	.2711441	-.02073	.0059829
3	.44877	.4875127	-.0387427	.0051058
4	.7398095	.8074797	-.0676702	.0052855
hhsize	-.0997783	-.0934196	-.0063586	.0010956
l.marstatbin	.1912193	.2166734	-.025454	.0049801
l.fsrecd	-.1574029	-.2032106	.0458078	.0057872
l.tanfrecd	-.1094944	-.1325925	.023098	.0105144

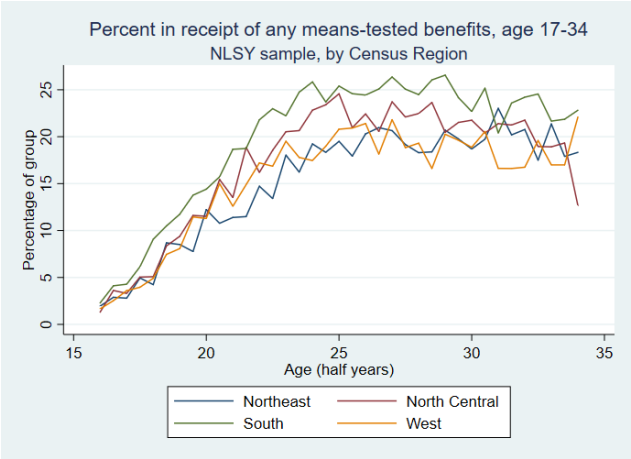
b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

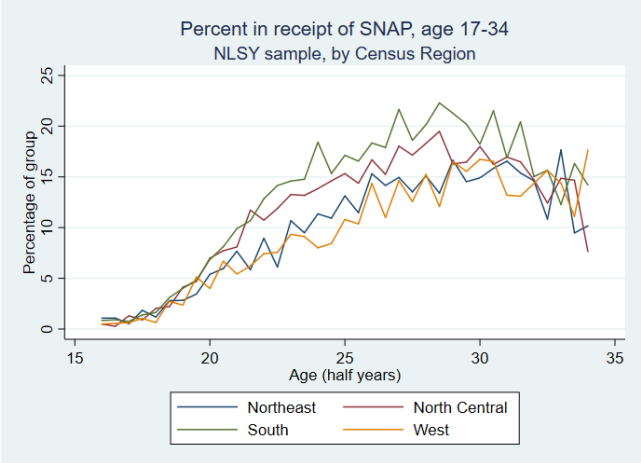
chi2(14) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= **407.72**
Prob>chi2 = **0.0000**

Appendix E: Benefit receipt, SNAP and TANF receipt by Census Region

Benefit receipt by Census region



SNAP receipt by Census region



TANF receipt by Census region